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HEALTH CARE INFORMATION. PROCESS CONDITION-ACTION DIAGRAM FLOWC--ETC(U)
JAN 77 K SCHANK, F BOCK
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TRIMIS-Army Technical Report 1

(1)

HEALTH CARE INFORMATION PROCESS

CONDITION-ACTION DIAGRAM FLOWCHARTS

US ARMY TRIMIS AGENCY
Walter Reed Army Medical Center
Washington, D.C. 20012

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER TRIMIS-ARMY-TR-1	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE *(and Subtitle)* HEALTH CARE INFORMATION PROCESS CONDITION-ACTION DIAGRAM FLOWCHARTS SERIES		5. TYPE OF REPORT & PERIOD COVERED 6. PERFORMING ORG. REPORT NUMBER N/A
7. Editor(s): Karl Schank: series editor; CPT Frederick Bock, IV: charts editor		8. CONTRACT OR GRANT NUMBER(s) N/A
9. PERFORMING ORGANIZATION NAME AND ADDRESS USA TRIMIS Agency WRAMC Washington, DC 20012		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS USA TRIMIS Agency WRAMC Washington, DC 20012		12. REPORT DATE January 1977 13. NUMBER OF PAGES 820 in 10 volumes
14. MONITORING AGENCY NAME & ADDRESS*(if different from Controlling Office)* N/A		15. SECURITY CLASS. *(of this report)* UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE N/A

16. DISTRIBUTION STATEMENT *(of this Report)*

Approved for public release: distribution unlimited

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

Same

18. SUPPLEMENTARY NOTES

This report number collectively refers to all of the ten volumes in the series. The series includes an introduction and nine functional subsystem reports as mentioned in the abstract below.

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Flowchart, Condition-Action Diagram, Health Care, Information System, Ambulatory Care, Hospital

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

This report series is the product of the US Army Tri-Service Medical Information Systems Agency (TRIMIS-Army) effort to analyze and flowchart the manual information handling operations in military Medical Treatment Facility (MTF). In particular, Walter Reed Army Medical Center (WRAMC), a large facility whose new hospital will have a capacity of 1,280 beds and approximately 200,000 outpatient visits per year, was chosen as the object of this effort. WRAMC was selected for analysis because, due to its size, it includes a superset of

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the capabilities of most MTF's, and is also the chosen prototype site for TRIMIS integrated computerized systems to be installed in the future.

The charts included in this series describe in easily understandable graphic form the major processes involved in operation of a large military MTF in the following areas: inpatient care (wards), ambulatory care (clinics), patient administration, ambulatory patient appointments, pharmacy, clinical laboratory, radiology, food and nutrition service, and hospital logistics (supply). The diagrams were developed to show the information needs, decision points, and flow of paper and patients in MTF. They depict the interfaces between patient, health care provider, and resources. They do not include the medical aspects of the treatment process between physician and patient, nor do they include details of how clerical personnel update forms, record information, etc.

It should be noted that these reports show the influence of a military facility on procedures and policies: DOD requirements may differ slightly from requirements of other health care facilities, particularly in the area of charges for services and payment of such charges, and their influence on information needs.

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TRIMIS-Army Technical Report 1-1

HEALTH CARE INFORMATION PROCESS

CONDITION-ACTION DIAGRAM FLOWCHARTS

OVERVIEW

US ARMY TRIMIS AGENCY
Walter Reed Army Medical Center
Washington, D.C. 20012

December 1976

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1. REPORT NUMBER: TRIMIS-ARMY-TR-1-1	2. GOVT ACCESSION NO.
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE *(and Subtitle)*: HEALTH CARE INFORMATION PROCESS CONDITION-ACTION DIAGRAM FLOWCHARTS OVERVIEW	5. TYPE OF REPORT & PERIOD COVERED
	6. PERFORMING ORG. REPORT NUMBER: N/A
7. AUTHOR(s): Karl Schank	8. CONTRACT OR GRANT NUMBER(s): N/A
9. PERFORMING ORGANIZATION NAME AND ADDRESS: USA TRIMIS Agency, WRAMC, Washington, DC 20012	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: USA TRIMIS Agency (SGTR-DO), WRAMC, Washington, DC 20012	12. REPORT DATE: December 1976
	13. NUMBER OF PAGES: 36
14. MONITORING AGENCY NAME & ADDRESS *(if different from Controlling Office)*: N/A	15. SECURITY CLASS. *(of this report)*: UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE: N/A

16. DISTRIBUTION STATEMENT *(of this Report)*

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20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

This report is a general overview of and introduction to the US Army Tri-Service Medical Information Systems Agency (TRIMIS-Army) effort to analyze and flowchart the manual information handling operations in military Medical Treatment Facilities (MTF). In particular, Walter Reed Army Medical Center (WRAMC), a large facility whose new hospital will have a capacity of 1,280 beds and approximately 200,000 outpatient visits per year, was chosen as the object of this effort. WRAMC was selected for analysis because, due to its

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size, it includes a superset of the capabilities of most MTF's, and is also the chosen prototype site for TRIMIS integrated computerized systems to be installed in the future.

This introductory volume includes background material and overview of TRIMIS and the charting effort, introduction and interpretation guides to the charting methodology, as well as indexes to all the charted processes of each of the subsystems included in this series of reports.

13 MAY 1977

DASG-ISZ (13 Apr 77) 1st Ind
SUBJECT: Publication of Health Care Condition Action Flow-Charts

DA, OTSG, Washington, DC 20310

TO: Director, US Army Tri-Service Medical Information Systems Agency, Walter Reed Army Medical Center, Washington, DC 20012

1. Approved.

2. Material submitted to DDC/NTIS will include a disclaimer in accord with Paragraph 4-3f, AR 360-5.

3. One copy of cleared material submitted for publication and distribution will be forwarded to DASG-ZXA.

FOR THE SURGEON GENERAL:

Lewis H. Huggins

wd all incl

LEWIS H. HUGGINS
Colonel, MSC
Executive Officer

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ACKNOWLEDGEMENTS

These flowcharts were developed by personnel of the US Army TRIMIS Agency (TRIMIS-Army) under the capable management of LTC James Wilburn, Director. Special thanks are due to the personnel of Walter Reed Army Medical Center (WRAMC) without whose participation and patience neither the analysis upon which the charts are based nor their subsequent review would have been possible. Graphic production of the charts from pencil originals was done under contract by JANDS, Inc., Silver Spring, Maryland.

Additional graditude is expressed to the following individuals who made signal contributions to the effort: Dr. James Levy who, as chief of the Development Office and the Modeling Effort, initiated the charting project; CPT Fred Bock, now with USARIEM, who developed the initial charting guidelines, and coordinated and monitored the graphic production of the charts themselves; and the secretaries of TRIMIS-Army, all of whom had a hand in the tedious job of typing these manuscripts.

To all: Your participation, help, and support is gratefully acknowledged.

--Karl Schank, Editor
7 December 1976

SUBJECTS OF VOLUMES IN THIS SERIES

Subject	Report Number*:
Overview and Introduction (This Volume)	-01
Wards (Inpatient Care) Subsystem Charts	-02
Clinics (Amubulatory Care) Subsystem Charts	-03
Patient Administration (PAD) Subsystem Charts	-04
Patient Appointments (PAS) Subsystem Charts	-05
Pharmacy Subsystem Charts	-06
Clinical Laboratory Subsystem Charts	-07
Radiology Subsystem Charts	-08
Food Service (FS) Subsystem Charts	-09
Hospital Logistics Subsystem Charts	-10

*"TRIMIS-Army TR 1" refers to the entire 10- Volume series; "TRIMIS-Army TR 1-nn", with appropriate "nn" as above, refers to a specific volume.

"The successful design of anything depends on two activities: *analysis* and *synthesis*. To construct a toothbrush, a chair, a health center building or a city, the designer must first analyze to the last detail the needs that are to be fulfilled by the object he is designing. Second, he must synthesize the fulfillment of these needs into the form that the object will take."

Robert A. Little and George F. Dalton*

*Little, R. A. and Dalton, G. F. "Designing the Community Health Foundation Center," in Yedidia, A. Planning and Implementation of the Community Health Foundation, Cleveland, Ohio. Washington DC: US Department of Health, Education and Welfare, 1968, p. 42.

INTRODUCTION

OVERVIEW OF THE TRIMIS PROGRAM

The Tri-Service Medical Information Systems (TRIMIS) program was formally created 11 July 1974 by the Department of Defense (DOD) Assistant Secretaries of Defense (Comptroller) and (Health and Environment) in order to consolidate previous service efforts and to "Improve the effectiveness and economy of health care delivery in the Army, Navy and Air Force." As this original tasking assignment stated, "TRIMIS will include development of automated information systems for timely patient-centered health data, supporting medical services, clinical research, epidemiological and health care information." This program is now managed and administered by the TRIMIS Program Office (TPO) of the Office of the Assistant Secretary of Defense (Health Affairs) which was created by DOD Directive 6000.5.

The concept of the TRIMIS system, as delineated on the 31 March 1976 TRIMIS ADP Development Plan includes various integrated health care systems projects (which include stand-alone systems and a longer-range Integrated Hospital System (IHS) Project), direct health care support systems projects, and medical management information systems projects. The individual projects that are included in the first category include development and/or procurement of the following subsystems:

- o wards and clinics (hospital information system)
- o patient administration (PAD)
- o patient appointments (PAS)
- o pharmacy
- o clinical laboratory
- o radiology
- o food service
- o hospital logistics

OVERVIEW OF THE FLOWCHARTING EFFORT

Inherent in any development or acquisition project is an analysis of the existing situation, as synthesis cannot proceed except based on the foundation formed by analysis of needs. To this end, the US Army TRIMIS Agency (Army component of the TRIMIS program and field activity of the Army Office of the Surgeon General) conducted an analysis of Walter Reed Army Medical Center (WRAMC). WRAMC was chosen as the site to analyse because its size and complexity which make it a superset of the activities at most other Army Medical Treatment Facilties (MTF). Futher, it has been chosen as the prototype implementation site for the TRIMIS integrated system. Additionally, the mission of the Army TRIMIS Agency (TRIMIS-Army) include implementating improvements in a manual mode preparatory to ADP implementations whenever feasible.

These flowcharts are a result of the analysis and improvement efforts of TRIMIS-Army at Walter Reed. They depict the existing, and in some cases planned, operations of the MTF in a manual or technology-independent mode. The use of ADP is not part of these charts, although portions of them may be amenable to ADP support. As it was believed that no similar charting effort had been undertaken elsewhere, it was desired to make these charts available in hopes that they may prove of use to others, perhaps as a model, an object of discussion to help initiate and crystalize thought, or as a foil or straw man for criticisim. It is not expected or intended that these charts will be used or implemented directly either in a manual or an ADP mode: the specific details would not transfer unaltered to any specific MTF. They may, however, provide a base from which to build and to extract.

More specifically, the purpose of these flowcharts is to present in easily understandable graphic form the major processing, material, personnel, and information flow involved in the above mentioned TRIMIS-related systems of a military MTF.

ORGANIZATION OF FLOWCHARTS

Each subsystem is presented as a separate stand-alone volume for ease of use. In this manner, the bulk does not become so cumbersome and, more importantly, functional distinction is preserved so that a specialist may concern himself only with the volume dealing with his own speciality if he so desires.

Similarly, each subsystem volume was developed by functionally-specific subsystem teams composed of both functional professionals and systems analysts. Thus there is diversity in team backgrounds, in functional subsystem details that affect the nature of the charts, and in the baseline system which was charted. This diversity has created a hetrogeny among the various charts and necessitates each subsystem volume including a description of exact nuances and interpretations of the standard symbology and structure used therein.

In general, however, the flowcharts are of the "condition-action" variety rather than the more common ANSI-standard ADP flowcharts. It was recognized early in the effort that the procedure-oriented ANSI charts were not as appropriate here because of their finer resolution and greater bulk, and because they were developed primarily for showing procedural flow of control and are relatively poor and cumbersome for representing information, material, and personnel flow. In this variety of flowcharts, the basic units of description are action (of any variety, performed by any actor or agent), enabling conditions and information (of any variety or media). These charts are rather more functionally (and declaratively) oriented than the algorithm-oriented ANSI charts. For a better visualization of this, see the sample description of symbols below, and the example which follows.

SAMPLE DIAGRAM INTERPRETATION GUIDE

The following pages are the PAS Condition-Action Diagram Interpretation Guide and Examples. They are presented here both to clarify and explain this charting technique and and to aid in interpretation of the sample flowchart which follows.

CONDITION-ACTION
DIAGRAM INTERPRETATION GUIDE

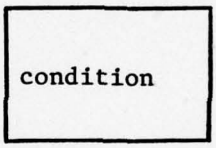
1. ACTION

When an action circle is encountered, the specified action, procedure, function, or process is to be performed as noted. An action is performed and never has a truth (true or false) value.



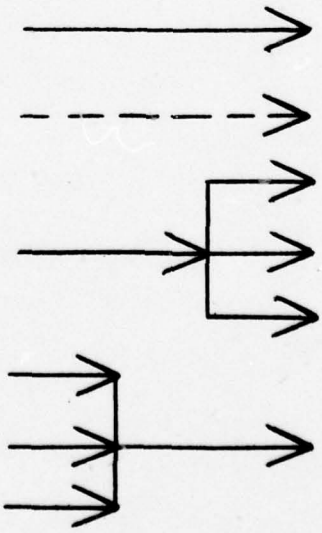
2. CONDITION

When a condition box is encountered, the specified condition is to be evaluated. If it holds true or succeeds, the following blocks on the diagram are to be executed. If the condition does not hold, then flow along this path of the diagram stops. The flow may, as appropriate, either be blocked permanently or may merely wait at the box pending the successful evaluation of the condition at some later time. A condition always has a truth (true or false) value.



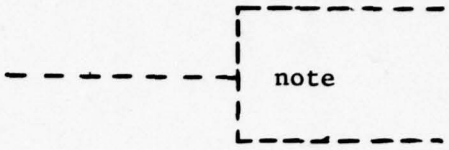
3. FLOWLINES

Flow proceeds through the diagram along the flowlines. When a flowline splits into multiple lines, all the lines must be followed (perhaps at once). If only one is intended, condition boxes will be used to select the proper line. When flowlines join or reconsolidate into a single line, that line is to be followed regardless of the number of joining lines that were active. Thus, there is no waiting at a junction. Control, execution, or interpretation of the diagram is shown by solid flowlines. Data and information are usually assumed to accompany control; but, where necessary for clarity, it is shown by "dash" lines, regardless of media.



4. **NOTE**

Clarifying notes, comments, remarks, and other annotations, including references to additional documentation, are enclosed in "dash" note boxes and are connected to the annotated structure by "dash" lines.



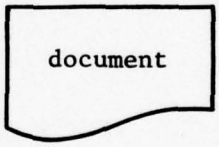
5. **STORAGE**

A triangular storage block indicates storage of information or data regardless of the medium of storage. Thus, only "dash" data flow lines--not solid control lines--will connect to storage blocks.



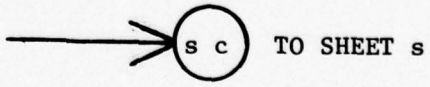
6. **DOCUMENT**

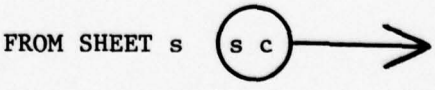
A document symbol represents information or data, regardless of media. (It may or may not physically reside on a a document). It is used only for clarity, as information such as that contained in the "document" is assumed to be always present along with the control flow. Like the storage symbol, only "dash" data lines may connect to a document symbol.



7. **CONNECTOR**

A connector circle specifies that the flow continues on another page. An out-connector contains a number (which is the sheet number at which the flow is continued) and a letter (which specifies which in-connector on that sheet is being referenced). The in-connector contains the matching number/letter code. Adjacent to the connectors is a notation as to the sheet and process to, or from, which the connectors refer.





8. PROCESS

A striped process circle indicates a process to be performed. It is analagous to a high-level or meta-action. The process referenced will be diagramed in its own set of condition-action flowcharts which are included in the same packet of flow-charts for reference. After the process is performed, flow resumes.



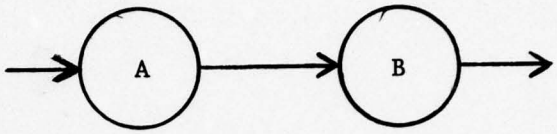
9. TERMINATOR

The oblong terminator symbol indicates that the current process or sub-process is complete. Normally, upon completion of a process, control returns to the process which invoked it and resumes where it left off in that process.

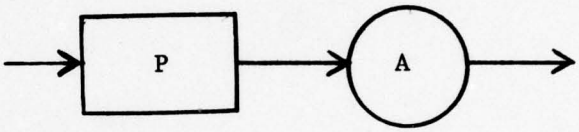


CONDITION-ACTION EXAMPLES

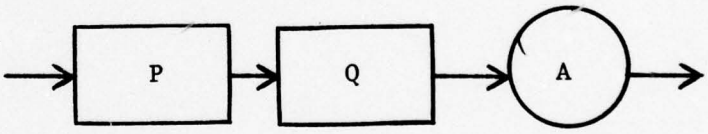
Perform Action A first, then in sequence, perform B.



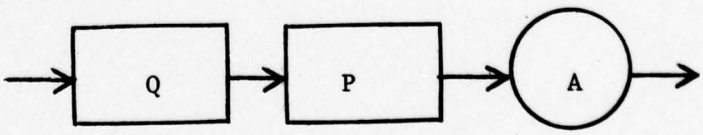
If Condition P holds true, then perform Action A. If P does not hold, do not perform A.



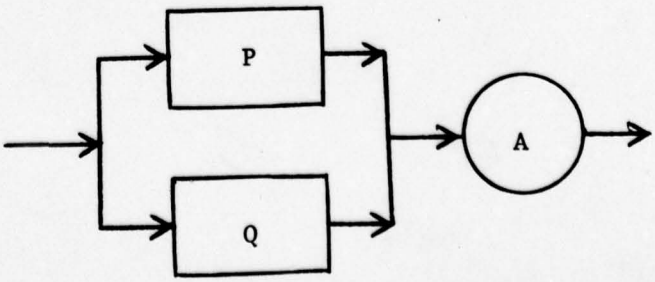
If both Condition P <u>and</u> Condition Q hold true, then perform A. If <u>either one</u> does not hold, then do not perform A.



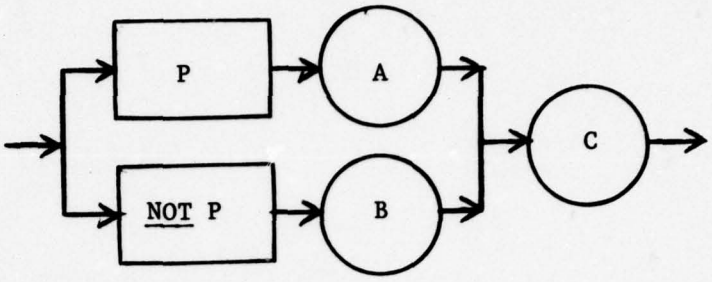
Same function and same net result as above, but evaluated in a different sequence.



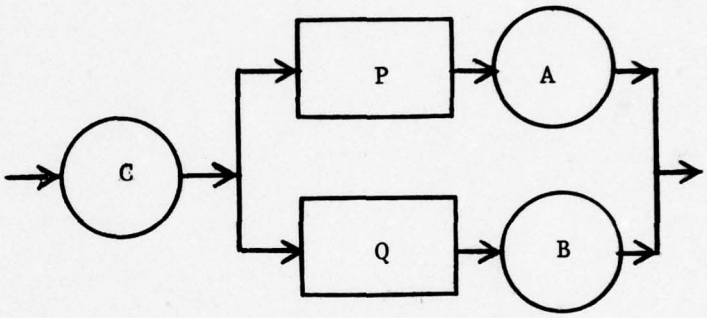
If either Condition P <u>or</u> Condition Q holds true (or both), then perform A. If <u>neither</u> holds true, then do not perform A.



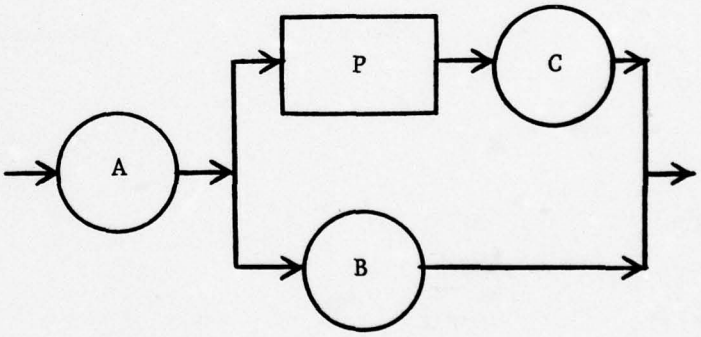
If Condition P holds true, then perform Action A, but not B. If P does not hold, then perform B, but not A. In any case, when done, perform C.



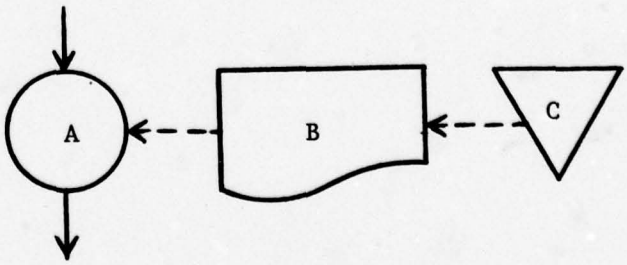
First perform Action C. Then, if Condition P holds true, perform Action A. If Condition Q holds true, then perform Action B. Note that both P and Q may hold, in which case both A and B will be performed.



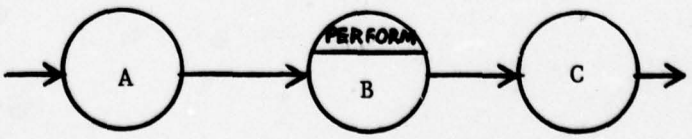
First perform Action A, then (in all case) perform Action B. Additionally, if Condition P holds true, then perform Action C (perhaps at the same time as Action B).



Perform Action A, utilizing information contained on the document B which was retrieved from the File C.



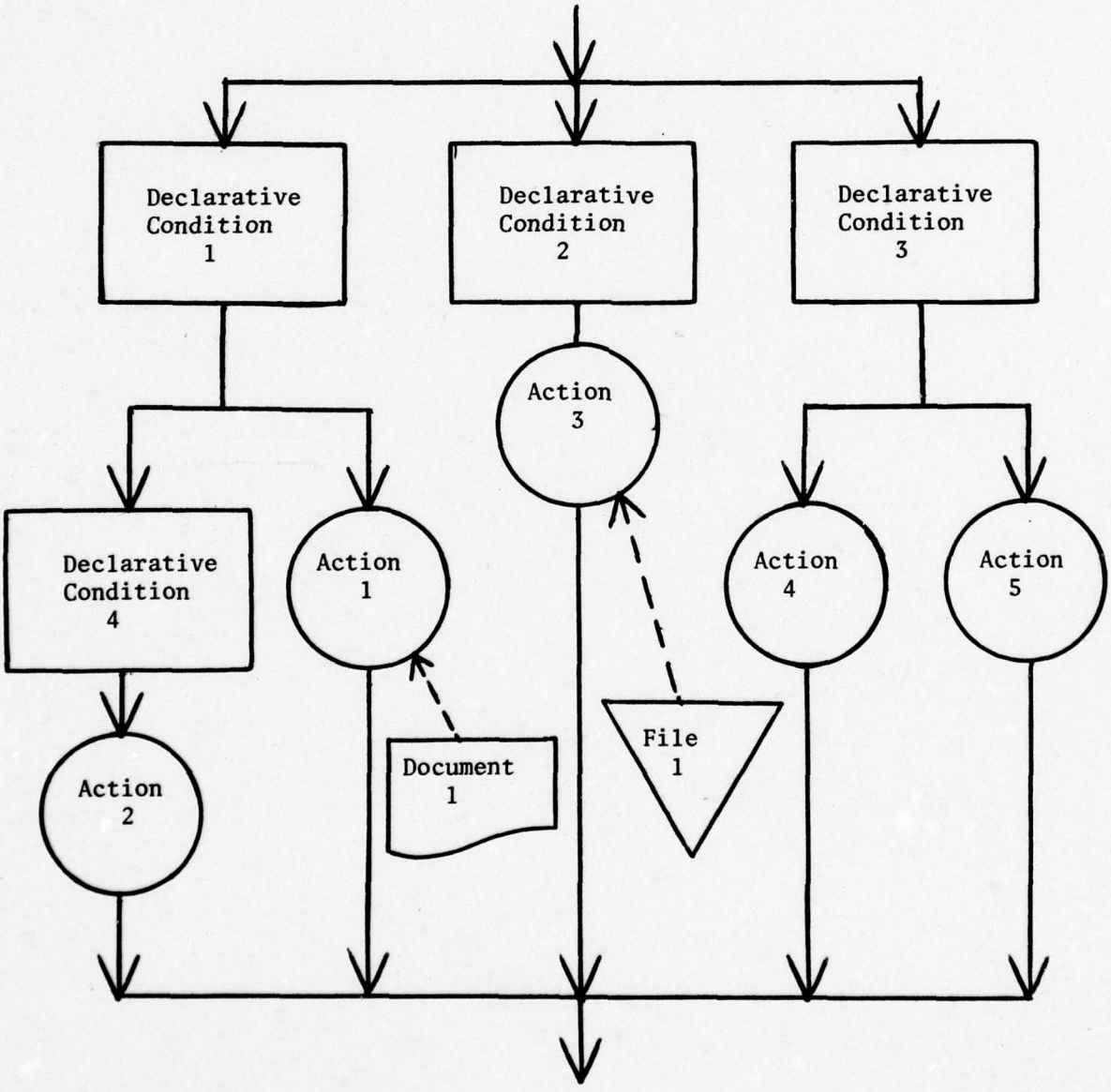
First perform Action A. Then perform Process B, which is itself flow-charted elsewhere in this set of charts. After B is completed, return to here and perform Action C.



Comparison to ANSI* ADP Flowcharts

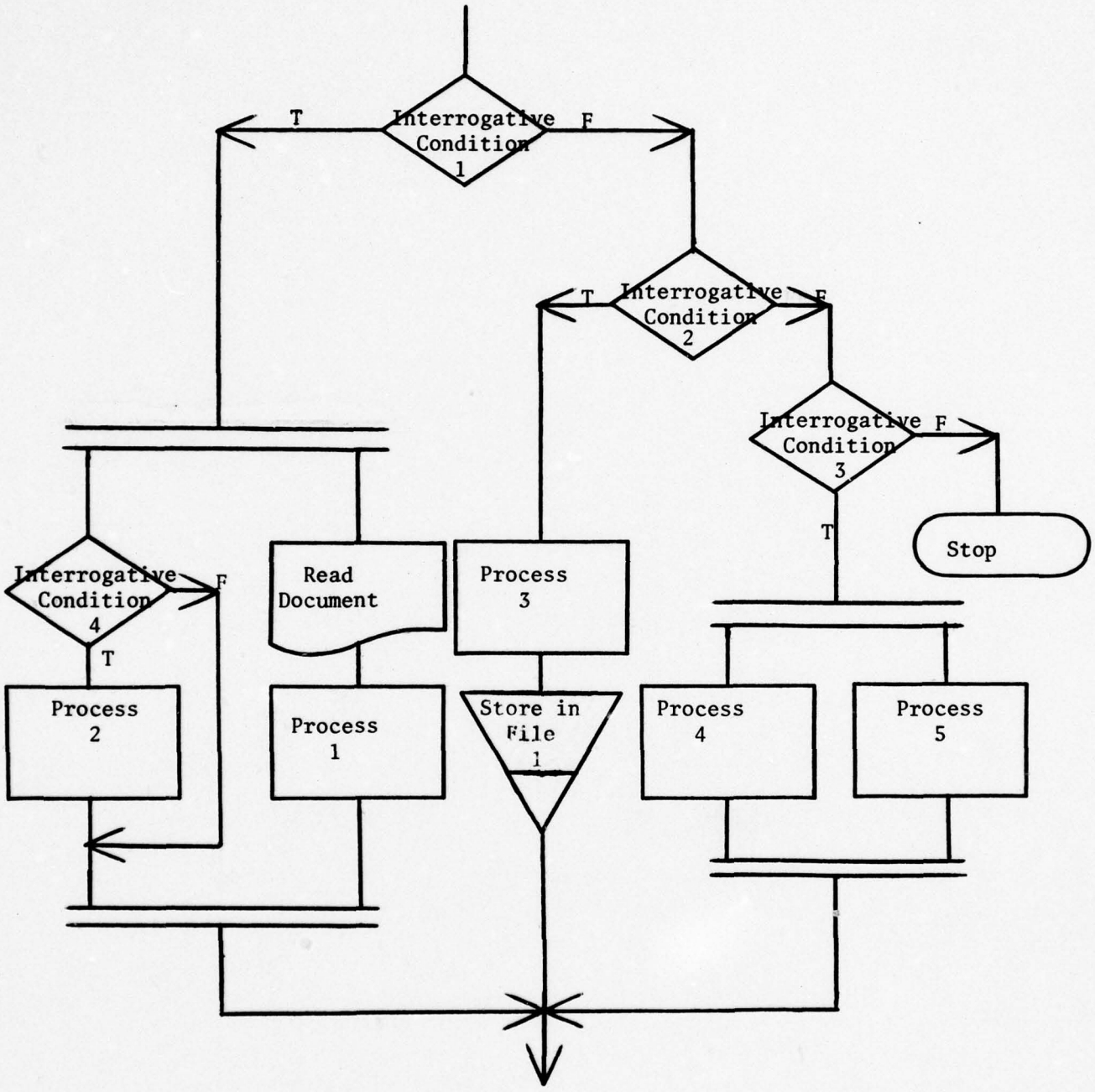
The following two flowchart segments are roughly equivalent. They are chosen for compatibility: Many charts have no easy translation.

Condition-Action:



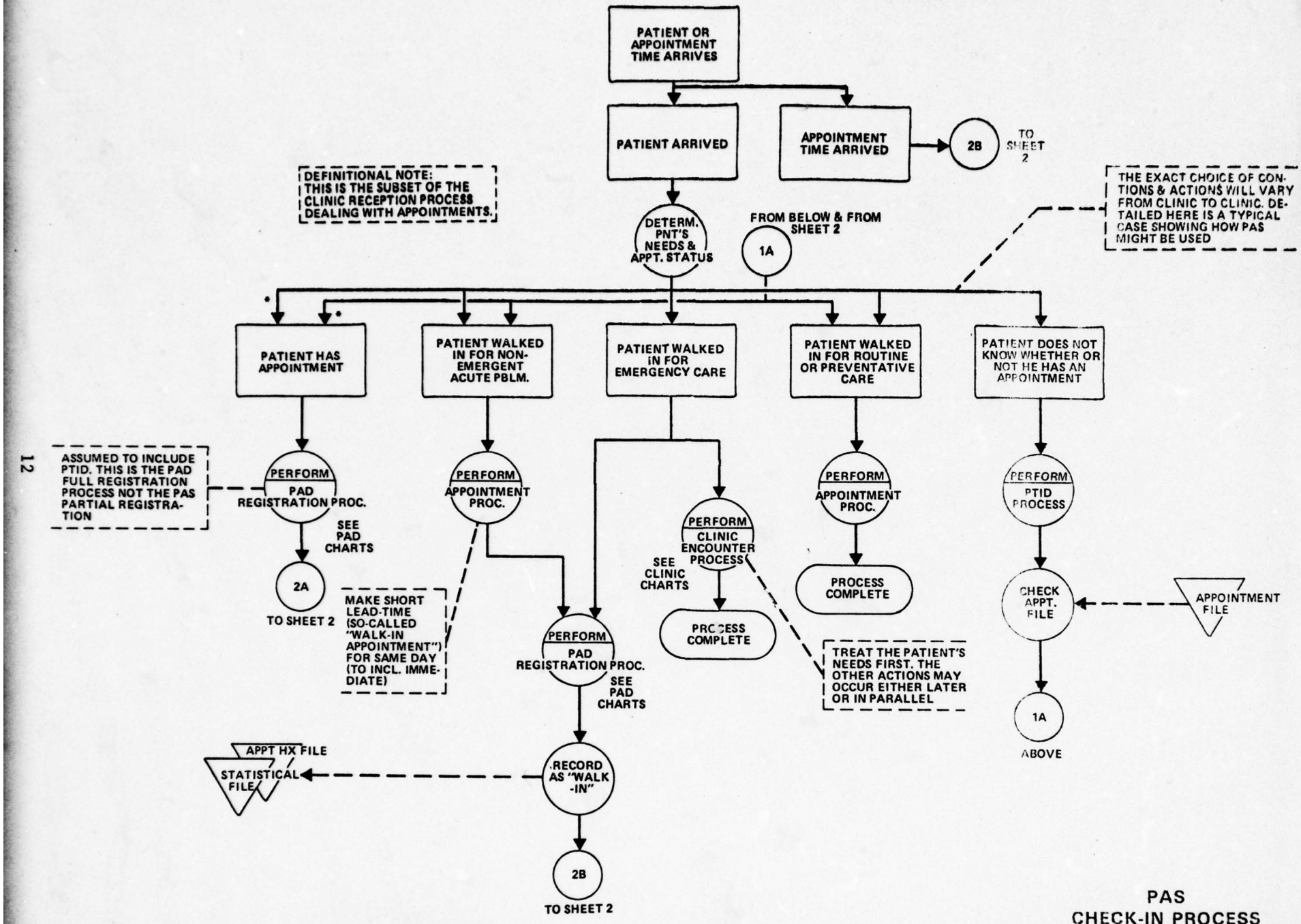
*Standardized as:
ANSI X3.5-1970, adopted as FIPS PUB 24, and adopted by DOD.

ANSI:


Interrogative Condition 1
T
F
Interrogative Condition 2
T
F
Interrogative Condition 3
F
T
Stop
Interrogative Condition 4
F
T
Read Document
Process 3
Process 2
Process 1
Store in File 1
Process 4
Process 5

SAMPLE FLOWCHART DIAGRAMS

The following page is a sheet extracted from the PAS condition-action diagram flowcharts, and is presented as an example of the charting techniques and of the processes charted.



PAS
CHECK-IN PROCESS
SHEET 1 OF 2 3 NOV 1975

ANNOTED NARRATIVE EQUIVALENT OF SAMPLE CHART

Patient Appointments Check-In Process

1. This chart applies and is invoked whenever either a patient arrives in an ambulatory clinic or when a patient's appointment time arrives (e.g., the patient didn't show up on time).

2. If the time for the appointment has arrived, the details of subsequent processing are contained on another sheet (PAS sheet 2) starting at connector 2B. If the patient has arrived, details follow on this sheet. Note that if both conditions occur simultaneously, it is in general intended that both paths of the chart be followed, as here. Sequence of the two paths is not important, and may be parallel. (If sequence were important, the paths would have been combined into a single new path, with one old section before the other.

3. When the patient arrives, the receptionist or clinic clerk will ask and determine his needs and his appointment status. (Earlier charts in the series specified that the agent or actor in this case and for this entire chart is the clerk/receptionist.) Five possibilities are considered here (as noted, this will vary from clinic to clinic):

a. The patient has an appointment (as indicated by the asterisk, this is the most frequent or common case);

b. The patient walked in without an appointment for an acute (as opposed to routine or preventive care) but non-emergency health problem;

c. The patient walked-in for emergency care;

d. The patient walked-in for routine or preventative care.

e. The patient does not recall whether or not he has a previously-made appointment.

Note that the nature of these conditions is such that they are mutally exclusive--only one case can occur at a time--so unlike item 2 above, only one chosen path will be followed. Each case is discussed in more detail below (as noted, details vary from clinic to clinic):

4. If the patient has an appointment, then register the patient by performing the PAD Registration process. When registration is completed, continue the PAS check-in process on sheet 2 at connector 2A.

5. If the patient walked-in for care for an acute problem, then first make an appointment for him (by performing the PAS Appointment Process)

for the same day. (Note that this may avoid some waiting if he can do other things in the area and come back at the appointed time, it gives him a definite appointment time rather than a vague assurance that if he waits long enough he will be worked-in somehow so it improves patient morale and care provider (CP) utilization. It also requries that the clinic has reserved some appointment slots for such occurences.) After the patient is given an appointment, he is registered, recorded as a "walk-in" (as opposed to pre-appointed) for patient appointment history and statistical purposes, and the processing continues at 2B. (Note that the "files" mentioned may be paper forms, card files, logs, etc. or ADP disk files. Media is not important. What is important is that this an appropriate point to record such information.)

6. If the patient walked-in for true emergency care, then he is treated first (by performing the Encounter processes detailed on the clinic charts). He also must be registered and then checked-in as a "walk-in". However, in this situation these processes are of lower priority than the encounter (treatment) processes and may be done either at a later time, or may be done at the same time as the encounter but by different people. The branches of the diagram going to two circles signify this--both encounter and registration must be done, but not sequentially.

7. If the patient walked-in for routine or preventative care, then (in the clinic shown) an appointment is made for him and that is all--the PAS check-in process is complete. The patient will later return for care at the appointed time and date.

8. If the patient does not recall whether or not he had made an appointment, then determine who he is (by performing the PTID process) and then look-up his appointment in an appointment file. As in item 5 above, the medium (card file, roster, slips, ADP disk, etc. and organization (by patient name, patient number, time and date, etc.) of the file is not important here. Once his appointment status is determined, (connector 1A), appopriate actions (items 4,5,7 above) will be taken.

SOME COMMON ABBREVIATIONS USED IN THE CHARTS

ADP	Automatic Data Processing (Computers)
AMEDD	US Army Medical Department
$\overline{c}$	with
clin	clinic
clk	clerk
commo	communications
CP	Care Provider (physician, dentist, nurse, etc.)
curr	current
determ	determine
doc	document
DOD	US Department of Defense
Dx	Diagnosis
FS	Food Service or Food Service Subsystem
HSC	USA Health Services Command
Hx	History
incl	including
info	information
Lab	laboratory or laboratory subsystem
log	log, record, journal
Log	logistics or logistics subsystem
MDS	Material Distribtion Service
med rec	medical record(s)
mgt	management or managerial

MITRC	Medical Inpatient Treatment Recording Card (Inpatient ID Card)
MR	Medical Record(s)
MSA	Medical Service Accounts
MTF	Medical Treatment Facility (hospital, etc.)
MTRC	Medical Treatment Record Card (out-patient ID card)
MW/C	Model Ward and Clinic
NU	Nursing Unit (ward)
OSD	Office of the Secretary of Defense
OTSG	Office of the Surgeon General of the Army
PAD	Patient Administration Subsystem (or Patient Administration Division)
PAS	Patient Appointment Subsystem
pblm	problem (patient's medical problem)
persnl	personnel
Pharm	pharmacy or pharmacy subsystem
pnt	patient
POC	Point of Contact
pri care	primary care
proc	process or procedure
prod	product or produce
pt	patient
PTID	Patient Identification
Rad	radiology or radiology subsystem
reg	registration

registr	registration
rept	report
sched	schedule
sel	selected
spec'd	specified
stat	statistical
STAT	immediately (latin: statim)
susp	suspense or suspense file
TPO	TRIMIS Program Office, OSD, Washington, D.C.
TRIMIS	Tri-Service Medical Information System. Refers to the system, the project/program, and the organization.
TRIMIS-Army	USA TRIMIS Agency, Washington, D.C.
Unit	Ward (nursing unit) or clinic
US	United States
USA	US Army
w/	with
W/C	Ward and Clinics Subsystems
WRAMC	Walter Reed Army Medical Center, Washington, DC

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Note--Additional references specific to each subsystm are included in the appropriate subsystem volume.

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AD A043 214

WARDS SUBSYSTEM

PROCESS
CONDITION-ACTION DIAGRAM
FLOWCHARTS

US ARMY TRIMIS AGENCY
Walter Reed Army Medical Center
Washington, D.C. 20012

August 1976

Approved for Public Release - Distribution Unlimited

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SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER TRIMIS-ARMY-TR-1-2	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE *(and Subtitle)* WARDS SUBSYSTEM PROCESS CONDITION-ACTION DIAGRAM FLOWCHARTS		5. TYPE OF REPORT & PERIOD COVERED 6. PERFORMING ORG. REPORT NUMBER N/A
7. AUTHOR(s) Mickey Hile, CDP; Matt Liang, MD; John Cello, MD; Joe Gard, MD; MAJ Sharon Bystran, RN; LTC Mary Messerschmidt, RN; CPT Vicki Flowers, RN; CPT Mike Strohmeyer		8. CONTRACT OR GRANT NUMBER(s) N/A
9. PERFORMING ORGANIZATION NAME AND ADDRESS USA TRIMIS Agency WRAMC Washington, DC 20012		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS USA TRIMIS Agency (SGTR-DO) WRAMC Washington, DC 20012		12. REPORT DATE August 1976 13. NUMBER OF PAGES 44
14. MONITORING AGENCY NAME & ADDRESS*(if different from Controlling Office)* N/A		15. SECURITY CLASS. *(of this report)* UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE N/A

16. DISTRIBUTION STATEMENT *(of this Report)*

Approved for public release: distribution unlimited

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

Same

18. SUPPLEMENTARY NOTES

For use in conjunction with TRIMIS-ARMY-TR-1-1 Overview.

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Flowchart, Condition-Action Diagram, Health Care, Information System, Hospital, Ward, Inpatient Care

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

The purpose of the Wards Subsystem "manual" condition-action flowcharts is to offer a graphic representation of the major processes which make up a ward system. Detail is of such a nature as to identify all ward operations but not the minute details of each operation so that what the physician actually does in the way of treatment for each patient, or how the medical records technician actually updates specific forms, is beyond the scope of these charts.

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Block #20:

The processes charted herein represent methods being employed in an inpatient ward modeling environment. As such, they are not necessarily indicative of general practices currently in use in any single military hospital. The modeling effort represents an attempt not only to update the general efficiency and quality of inpatient health care delivery, but also to try to parallel the operating conditions expected in the new Walter Reed facility. In this way, potential difficulties with work flow, patient timing, personnel training, and so forth, can be discovered and rectified early, making the transition into the new facility as smooth as possible.

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ACKNOWLEDGMENTS

These charts were developed through the combined efforts of personnel of the US Army Tri-Service Medical Information Systems (TRIMIS-Army) Agency and the Walter Reed Army Medical Center (WRAMC). This undertaking, conducted concurrently with the establishment of a nursing unit operations modeling project at WRAMC, spanned 15 months and utilized both medical professional and systems analyst personnel from TRIMIS-Army, and medical professional, para-professional, and auxiliary personnel from the Model Ward.

WARDS SUBSYSTEM

1. PURPOSE

The purpose of the Wards Subsystem "manual" condition-action flowcharts is to offer a graphic representation of the major processes which make up a ward system. Detail is of such a nature as to identify all ward operations but not the minute details of each operation so that what the physician actually does in the way of treatment for each patient, or how the medical records technician actually updates specific forms, is beyond the scope of these charts.

2. BACKGROUND

While differences exist between types of medical care rendered by different types of nursing units, there is a great deal of commonality among these units in terms of treatment procedures, administrative processes, and ancillary service support. As well, both the nursing units and the entire medical treatment facility cover a wide range of sizes, and this system is designed to be usable for all facilities which have inpatient beds, regardless of their relative size. It is reasonable to assume, however, that certain subsets of this system would not be implemented in smaller or more specialized facilities. All of these procedures have been implemented and are currently used--at least in part--in a manual system at the Walter Reed Army Medical Center.

3. LIMITATIONS

The reader is cautioned to remember that these charts represent inpatient health care as delivered in a military hospital--with rules, regulations, limitations, and stipulations--as set forth by the Surgeon General of the Army and members of his staff. Thus, certain processes, especially those of an administrative nature, closely parallel methods employed in civilian institutions while retaining military labels and nomenclatures.

The processes charted herein represent methods being employed in an inpatient ward modeling environment. As such, they are not necessarily indicative of general practices currently in use in the Walter Reed Army Medical Center or any other military hospital. The modeling effort represents an attempt not only to update the general efficiency and quality of inpatient health care delivery, but also to try to parallel the operating conditions expected in the new Walter Reed facility. In this way, potential difficulties with work flow, patient timing, personnel training, and so forth, can be discovered and rectified early, making the transition into the new facility as smooth as possible.

Operations in the new facility will require sizeable increases in the number of clerical personnel required to operate this subsystem as charted, especially if done in a totally manual mode. The assumption is that adequate numbers of additional personnel are available to fill these positions and that they can be trained to adequately perform all required duties, especially in an automated environment.

4. OBJECTIVES

The overriding goal of any ward is to provide top-quality health care to its patients. This requires the bringing together of nearly all of the hospital's services--both professional and non-professional--at the time and place where a need occurs.

One of the major considerations in this regard is the fact that current thinking leans toward the extraction of the physician and nurse from routine clerical matters with a consequent increase in involvement in direct patient care. This system has been carefully designed to optimize nurse involvement in health care, with clerical, managerial, and logistical support being provided to the patient and the health care team by persons skilled in these particular disciplines.

5. DEFINITION OF TERMS

The following are definitions of abbreviations and terms found throughout the Wards flowcharts:

A&D - Admissions and Dispositions. Generally used to refer to the office within the medical treatment facility (MTF) which is responsible for patient admissions and discharges, and their related administration.

Admission. The process of placin an individual under treatment or observation as an inpatient in an MTF and assuming medical responsibility for an individual who is hospitalized in a non-federal hospital or VA hospital, or when an individual is placed "on quarters."

Admitting Physician. The physician with designated admitting privileges who arranges for the admission, pre-admission, or transfer of the patient to the hospital.

Care Provider (CP). An individual who delivers services of a clinical nature directly to the patient--may be a physician, nurse, clinical dietitian, chaplain, LPN (Licensed Practical Nurse), etc. Does not include persons acting in administrative support roles, e.g., unit manager. Does not identify level of profession.

Clinic. A health treatment facility primarily intended, and appropriately staffed and equipped, to provide emergency treatment and outpatient services. A clinic is also intended to perform certain preventive medicine activities related to the health of the personnel served,

such as physical examinations and immunizations. A clinic may be equipped with beds for observation of patients awaiting transfer to a hospital, or for short-term observation of patients following some kind of treatment.

Clinic/CP Schedule. Generally, an array of times in which the CP is in the clinic showing his specific availability, by time, for patient encounters of various types. Clinics and CP's, in the Patient Appointments and Scheduling (PAS) Subsystem, are said to have "schedules" in which various patient appointments can occur. In a more restricted sense, "schedule" refers to a printed or displayed schedule (as defined above) which indicates at a glance the types and availabilities of the appointment slots comprising it, but does not indicate which patients have been appointed to the filled slots. The term "scheduling", as used in PAS, refers primarily to the bookkeeping of each CP's schedule and availability.

Clinical Summary. A defined set of data elements providing a concise outline of the patient's problems and treatment of same. Other terms which have been used are: "mini-record" and "minimal patient data base." The elements of the Clinical Summary are:

	Differences*	
	Ward	Clinic
Patient Identification (PTID)		
Age, Sex, Religion, Race		
Rank-Category		
*Patient Location	Ward, Room, Bed	Tel No., Addr (Home, Work)
*Primary Physician	Ward Physician	Physician, Location
*Primary Nurse	Ward Nurse	Nurse Clinician, Location (if applicable)
Problem Lists		
Current Medications		
Reactive Agents, Adverse Reactions		
Medical Alert Message		
Special Instructions		
Height-Weight/Date		
Blood Type		
Surgical History		
Obstetrical History		
Test Results Profile		
Last Contact(s) with System		
Clinical Flow Sheet		

Consultation. The process of requesting a specialist's opinion regarding a patient's problem.

Disposition. The termination of an individual's admission to an MTF (See definition of Admission). Can also refer to the completion of all or some major part of a treatment plan for a clinic patient.

Logistics Technician (Log Tech). An individual assigned to a specific area of coverage (one or more nursing units or clinics) who is directly responsible for maintaining supply stockage levels for the unit, for stocking nurse servers as required, and for obtaining non-standard supplies and equipment at the request of the CP.

MEB (Medical Evaluation Board). A medical committee used to assist in determining the medical fitness of an active duty Service member. The MEB members are appointed by the MTF commander to consider each individual case where Board action is required by regulation, as well as any cases where Board action is necessary due to the problematical or controversial nature of an individual's condition.

Medical Outprocessing Clerk. A person skilled in the analysis and transcription of medical records. This person generally is responsible for review and update of a patient's record after a patient encounter in a clinic.

MRT (Medical Record Technician). A person skilled in the analysis and transcription of medical records. The MRT is responsible for the clinical record while it is on the ward.

MTF (Medical Treatment Facility). Any physical complex wherein professional health care is rendered, either on an inpatient and/or an outpatient basis.

MTRC/MITRC (Medical Treatment Recording Card/Medical Inpatient Treatment Recording Card). These are standard credit-card-size cards (plastic, embossed, and machine-readable) which contain patient identifying information.

Order - A formal request for a service. Patient orders may be classified as to:

1) ORIGIN:

Primary - An order whose execution is not specified to be conditional to the execution of another order.

Secondary - An order whose execution is specified to be conditional to the execution of another order.

2) PRIORITY:

STAT - (Abbrev of Latin STATIM meaning immediately). An order whose execution is time-critical and which may invoke a special mode of execution.

Routine - An order which is executed through normal procedures.

3) STATUS:

Current - An order which is in effect.

Outstanding - An order whose execution is in process (for which no result has been received).

Suspense - An order for which a file entry is created upon order entry and not deleted until a specified event occurs.

Old - An order whose execution has been completed (and confirmed if a suspense order) or cancelled.

Delinquent - An order whose execution step(s) has/ have not been confirmed within a pre-defined period of time after the ordered time.

4) TYPE:

A (traditional) classification for orders to identify to which activity and/or service the order is directed, e.g., laboratory order, diet order, etc.

Ordering. The process of requesting an action to be performed.

PAD (Patient Administration). The function of PAD is to provide patient administrative services for the hospital and to act as custodian of all medical and clinical records of inpatients and outpatients. This includes: administratively admitting and discharging patients, and receiving, reviewing, maintaining, storing, and disposition of medical records.

PAS (Patient Appointments and Scheduling Subsystem). The subsystem of the Health Care Delivery System which supports patient appointments, clinic/CP schedules, dental, and operating room scheduling. This system is ADP-supported and has no specific geographic bounds, being composed of a centralized telephonic appointment service as well as decentralized appointment sites, such as clinic outprocessing areas.

PTID (Patient Identification). The data necessary to provide unique patient identification and the common linkage between the various automated and manual data files forming the basis for an integrated patient data base system. It consists of patient's name, sponsor's Social Security Number, patient's family member prefix, and patient's date of birth.

Pre-admission. Collecting appropriate admission data before admission actually occurs. Performed for elective cases where immediate hospitalization is not required, it is identical to Admission except that hard-copy admission documentation is maintained in a suspense file until actual admission.

Primary Nursing. A nursing concept wherein a registered nurse is designated as the individual responsible for ensuring that the nursing process is accomplished for a case-load of hospitalized patients. Responsibility begins with admission and continues through discharge (including discharge planning). In this case, the primary nurse works directly with the primary physician, and the patient and his family to ensure that observations are documented and analyzed care is planned, implemented, and evaluated, and that plans are modified as required.

Primary Physician. The physician responsible for the patient's medical care and for coordination of services available from the health care system. When a patient is admitted to a ward, the ward physician assigned becomes the patient's primary physician for the duration of the patient's hospitalization.

Pri-team. A combination of team nursing and primary nursing in which the team is responsible and accountable for all the nursing care delivered to that team's patient.

Pri-team Nursing. Assignment of eight to ten individual patients to a nursing team whose members are responsible for nursing management of their case-load from the time each patient is admitted until he is discharged. Team membership consists of an RN and one or two other nursing service personnel.

Problem-oriented Medical Record. A medical record which includes a problem list and in which the CP's notes are organized according to the listed problems. A problem is any condition which may adversely affect or reflect the patient's health. Problems may be: 1) diagnoses, 2) physiologic findings, 3) symptoms or physical findings, 4) abnormal laboratory findings, 5) health maintenance, and 6) psycho-social conditions relevant to one of the preceding categories.

Requisition/Request Form - An order document. For example, laboratory test requisitions have the following elements:

1) PTID

2) Test specification - usually only one test or several closely related tests (e.g., blood hematology tests) can be ordered per requisition. Hence, requisitions are usually test-specific.

3) Source of specimen (e.g., blood, urine), if not implied by 2.

4) Date and time of specimen collection.

5) Ordering clinic or ward.

6) Ordering CP.

7) Date of order.

8) Frequently, additional test specific data needed for interpretation (*e.g., age, sex*).

9) Space for result reporting.

As the above implies, a requisition can serve not only to communicate an order but also to report results.

SI (Seriously Ill). When a patient's illness is of such severity that there is cause for immediate concern although there is no imminent danger to life.

Standard Order Set. A defined set of orders which are frequently entered simultaneously, but with only minor variations, and which have therefore been grouped together for convenience of entry. Examples of this grouping are:

1) Admission orders (e.g., obstetrical, coronary care, etc.).

2) Procedure-related orders (e.g., pre-operative, post-operative), with breakdowns by procedure categories.

Team Nursing. A method of organizing nursing services whereby patient care is assigned to teams consisting of a team leader, RN, and one or more other nursing service personnel. The head nurse remains the center of communications and the person ultimately responsible.

Test Results Profile. A defined set of laboratory, X-ray, and EKG (electrocardiogram) reports providing a concise summary of the patient's test results data base. The set may be defined by any or all of the following mechanisms:

1) The most current results for a defined set of tests, (e.g., complete blood count, urinalysis, SMA 12, chest X-ray, EKG).

2) Results from previous encounters with the option of obtaining only the most recent results.

3) Results of tests uniquely specified for a patient.

One use of the Test Results Profile is in the Clinical Summary.

Unit Administrator. Individual charged with responsibility for all administrative, personnel, and logistical functions of each individual ward and clinc. In the military environment, the unit administrator is responsible basically for all non-direct patient-care functions of his unit. He is responsible for all unit equipment; he hires, trains, supervises, and schedules all non-professional personnel, handles local patient administration, and participates in the overall budgetary process for funds for his unit.

Unit Dose Distribution. Drug distribution system in which each drug order is sent to the pharmacy. The pharmacy maintains a patient's medication profile. Periodically, medications are delivered to the wards in a cart (or in cassettes which are made to fit into a cart). Each drawer in the cart will contain medication for one patient. The pharmacy places enough medication in each patient drawer to meet the requirements for active orders between cart exchange times. Each medication (including injectables) is dispensed in a single well-labeled medication package which contains a single dose in ready-to-administer form.

Unit Medical Clerk. A trained person located on the ward/clinic/ancillary service who is responsible for all intra-hospital commnications to and from that unit.

VSI (Very Seriously Ill). When a patient's illness is of such severity that his life is in imminent danger.

Walk-in Patient. Any non-appointed patient who presents himself for care at the MTF.

6. EXPECTED BENEFITS

a. Greater flexibility and capability.

b. Increased nursing personnel involvement in direct patient care.

c. Improved utilization of personnel and material resources.

d. Improved patient satisfaction.

e. Standardized procedures.

f. Ability to collect more meaningful and complete workload data for staffing purposes.

7. SUBSYSTEM INTERFACES

There are major interfaces in the Wards Subsystem to the Patient Administration System, the Pharmacy System, the Radiology System, the Clinical Laboratory System, and the Food Service System.

There are also minor interfaces to the Clinics Subsystem and the Patient Appointments and Scheduling System.

8. AMENABILITY TO ADP SUPPORT

These processes, as charted, represent only procedures and are, as such, technology-independent. It is now foreseen that most, if not all, of these processes will be automated in the future. However, each of them can be adapted to a completely manual health care system, as well as any manual/automated combination, simply by following the charts.

9. FILES, RECORDS, AND FORMS

The following are descriptions of files, records, and forms utilized in the Wards Subsystem and referenced throughout these flowcharts:

a. Nursing Care Plan. A detailed outline of medical care originated by the nursing team leader and used as the basis for all inpatient nursing care during the patient's stay. This plan is a combination of the physician's orders as well as the nursing technique to be used.

b. Order Schedule. Sheet noting the schedule times for all tests, services, and other significant treatment events on the ward. Used by the ward staff to insure that patients are transported at proper times, that medications are administered on time, etc.

c. Order Sheet. Form used by patient CP's to request services. Some orders, particularly those for medication, may need to be signed or countersigned by a physician.

d. Outstanding Report Suspense File. File created during processing of CP's written orders to insure that orders are carried out within a set period of time.

e. Patient Appointment File. File, maintained on the ward, listing ward patient's appointments with other health care activities within the MTF.

10. SPECIFIC FLOWCHART COMMENTARY

Explanation of possible ambiguities or areas of misunderstanding within the Wards Subsystem flowcharts are listed below by process.

a. Transfer-in/Admission

On Sheet 2/2, physician and/or nurse coordination must include approval through PAD channels of the new ward assignment prior to patient transportation. Failure to coordinate with PAD introduces unneeded subsequent rectification of PAD ward assignment records and erroneous patient status reporting.

b. Inpatient Care Process

The pre-disposition process noted has a military-unique aspect. Because of the need for advance notification of personnel branches in order that assignment orders, etc., can be prepared in a timely manner, the physician must attempt to project a discharge date as far as possible in advance. The pre-disposition process is basically the notifications involved with the patient's impending transfer to a new assignment or to the medical holding company for further convalescence/treatment.

The unit management process, in the context of Sheet 1/2, includes any administrative matters, such as typing, housekeeping duties, etc., needed by the patient or physician to resolve the problem at hand. The process is not charted in detail at this time because it is still undergoing development.

c. Order Process

Action circle 1B on Sheet 1/13 indicates a return of an order from the Pharmacy Subsystem because of need for countersignature of a drug order by a physician with full prescribing privileges. Certain drugs (e.g., experimental drugs) can be ordered only by specifically authorized individuals.

The standard operating procedures file referenced on Sheet 4/13 implies a standard order set of supplementary orders generated by one primary order. This standard order set is adequate for most routine cases but may be modified by the CP to fit the particular situation.

The Pharmacy, Radiology, and Food Service Subsystems, referenced on Sheet 5/13, all contain needed feedback to the Wards/Clinics Subsystem. Respectively, these include transportation of the requested drug or admixture to the ward for administration by ward personnel, transmittal of X-ray results or notes on radiation therapy results from the Radiology Department, and coordination of appropriate diet therapy by the Food Service Division. The Pharmacy Subsystem feeds back into the medication administration process, Radiology re-enters at the result return and review process, and Food Service enters indirectly through coordination with the CP's on needed dietary changes/updates which generate new orders.

The Laboratory Subsystem, referenced on Sheet 7/13, also contains feedback mechanism to the result return and review proc ss.

Special handling mentioned also on Sheet 7/13, as well as on 8/13, involves any procedure, such as icing of certain specimens or fixing smear specimens, which must be accomplished to preserve the specimen for accurate testing.

On Sheet 9/13, the two condition blocks from Circle 9A differ in terms of volume of blood drawn. The "Patient Donation for Later Administration to Himself" implies withdrawal of a quantity (most likely one unit) of blood. The "Cross Match and Reserve for Specific Patient" implies withdrawal of only that quantity needed for laboratory cross-matching procedures, usually one or two small vials. As soon as the cross-match is performed, two units of the right type of blood are reserved for use by the patient when needed.

CONDITION-ACTION
DIAGRAM INTERPRETATION GUIDE

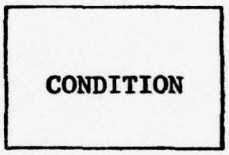
1. ACTION

When an action circle is encountered, the specified action, procedure, function, or process is to be performed as noted. An action is performed and never has a truth (true or false) value.



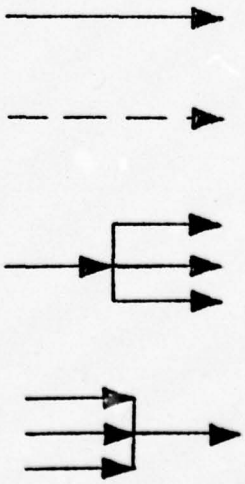
2. CONDITION

When a condition box is encountered, the specified condition is to be evaluated. If it holds true or succeeds, the following blocks on the diagram are to be executed. If the condition does not hold, then flow along this path of the diagram stops. The flow may, as appropriate, either be blocked permanently or may merely wait at the box pending the successful evaluation of the condition at some later time. A condition always has a truth (true or false) value.



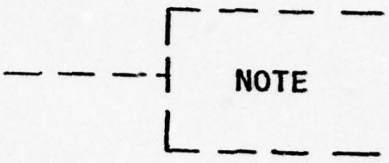
3. FLOWLINES

Flow proceeds through the diagram along the flowlines. When a flowline splits into multiple lines, all the lines must be followed (perhaps at once). If only one is intended, condition boxes will be used to select the proper line. When flowlines join or reconsolidate into a single line, that line is to be followed regardless of the number of joining lines that were active. Thus, there is no waiting at a junction. Control, execution, or interpretation of the diagram is shown by solid flowlines. Data and information are usually assumed to accompany control; but, where necessary for clarity, it is shown by "dash" lines, regardless of media.



4. NOTE

Clarifying notes, comments, remarks, and other annotations, including references to additional documentation, are enclosed in "dash" note boxes and are connected to the annotated structure by "dash" lines.



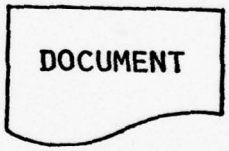
5. STORAGE

A triangular storage block indicates storage of information or data regardless of the medium of storage. Thus, only "dash" data flow lines--not solid control lines--will connect to storage blocks.



6. DOCUMENT

A document symbol represents information or data, regardless of media. (It may or may not physically reside on a a document). It is used only for clarity, as information such as that contained in the "document" is assumed to be always present along with the control flow. Like the storage symbol, only "dash" data lines may connect to a document symbol.



7. CONNECTOR

A connector circle specifies that the flow continues on another page. An out-connector contains a number (which is the sheet number at which the flow is continued) and a letter (which specifies which in-connector on that sheet is being referenced). The in-connector contains the matching number/letter code. Adjacent to the connectors is a notation as to the sheet and process to, or from, which the connectors refer.





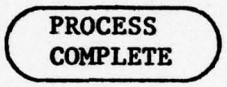
8. PROCESS

A striped process circle indicates a process to be performed. It is analagous to a high-level or meta-action. The process referenced will be diagramed in its own set of condition-action flowcharts which are included in the same packet of flow-charts for reference. After the process is performed, flow resumes.



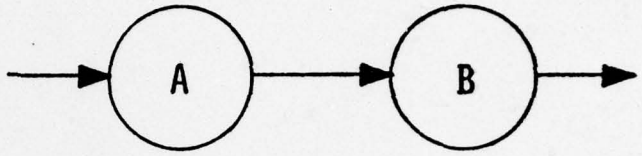
9. TERMINATOR

The oblong terminator symbol indicates that the current process or sub-process is complete. Normally, upon completion of a process, control returns to the process which invoked it and resumes where it left off in that process.

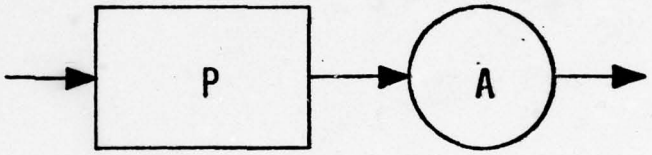


CONDITION-ACTION EXAMPLES

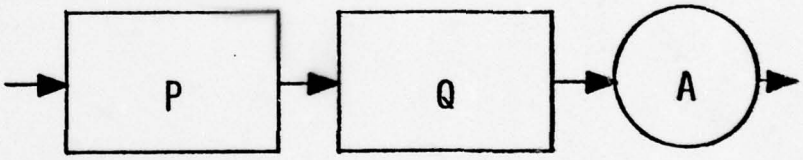
Perform Action A first, then in sequence, perform B.



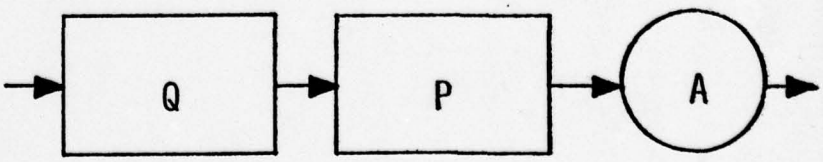
If Condition P holds true, then perform Action A. If P does not hold, do not perform A.



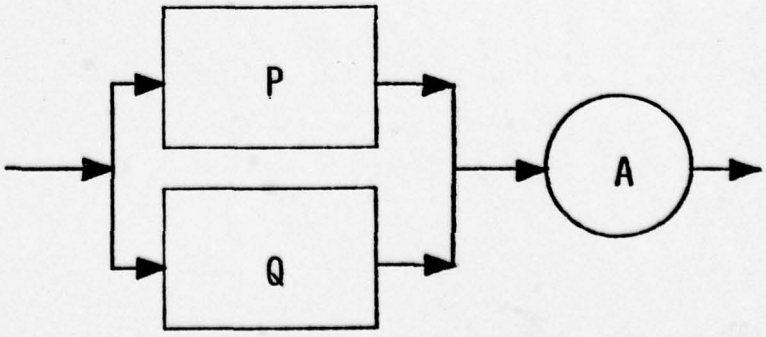
If both Condition P and Condition Q hold true, then perform A. If either one does not hold, then do not perform A.



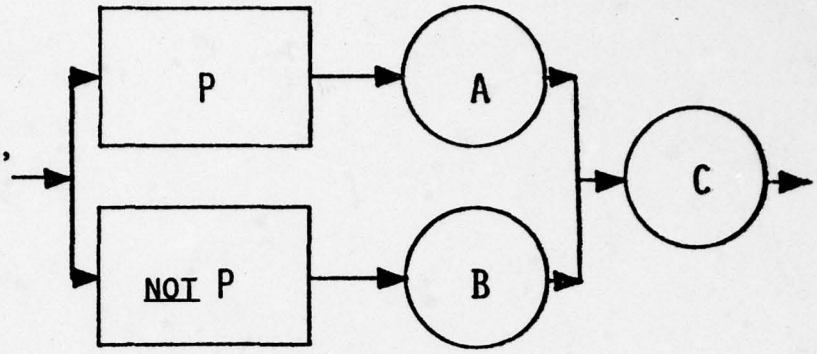
Same function and same net result as above, but evaluated in a different sequence.



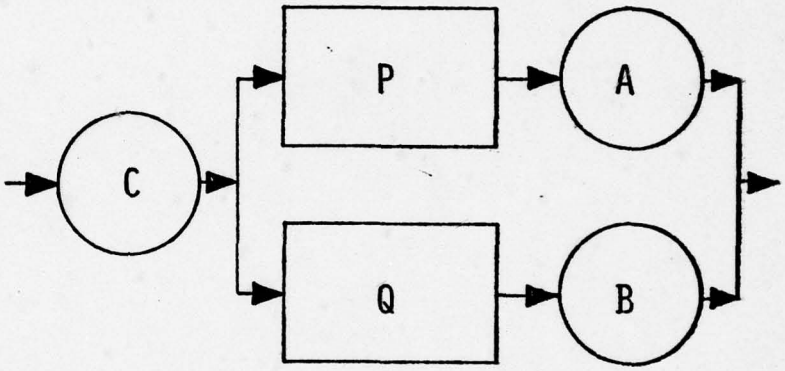
If either Condition P or Condition Q holds true (or both), then perform A. If neither holds true, then do not perform A.



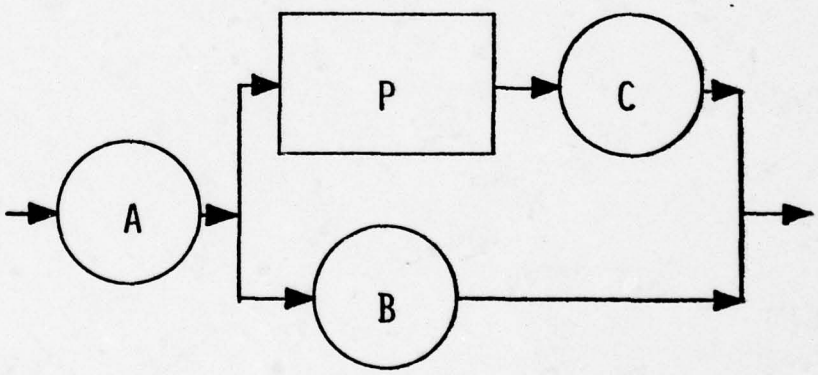
If Condition P holds true, then perform Action A, but not B. If P does not hold, then perform B, but not A. In any case, when done, perform C.



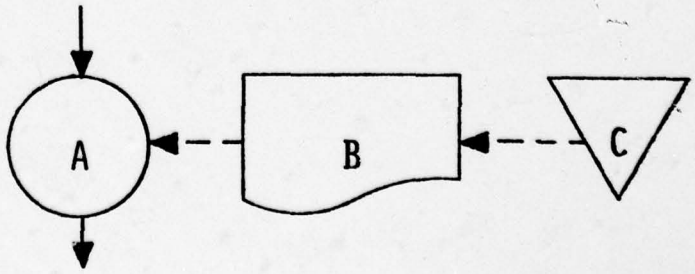
First perform Action C. Then, if Condition P holds true, perform Action A. If Condition Q holds true, then perform Action B. Note that both P and Q may hold, in which case both A and B will be performed.



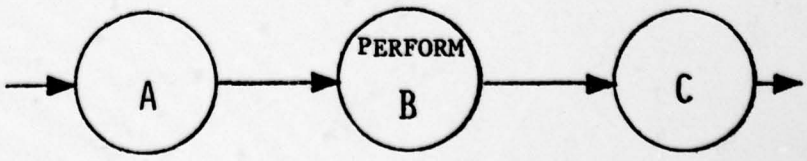
First perform Action A, then (in all case) perform Action B. Additionally, if Condition P holds true, then perform Action C (perhaps at the same time as Action B).



Perform Action A, utilizing information contained on the document B which was retrieved from the File C.

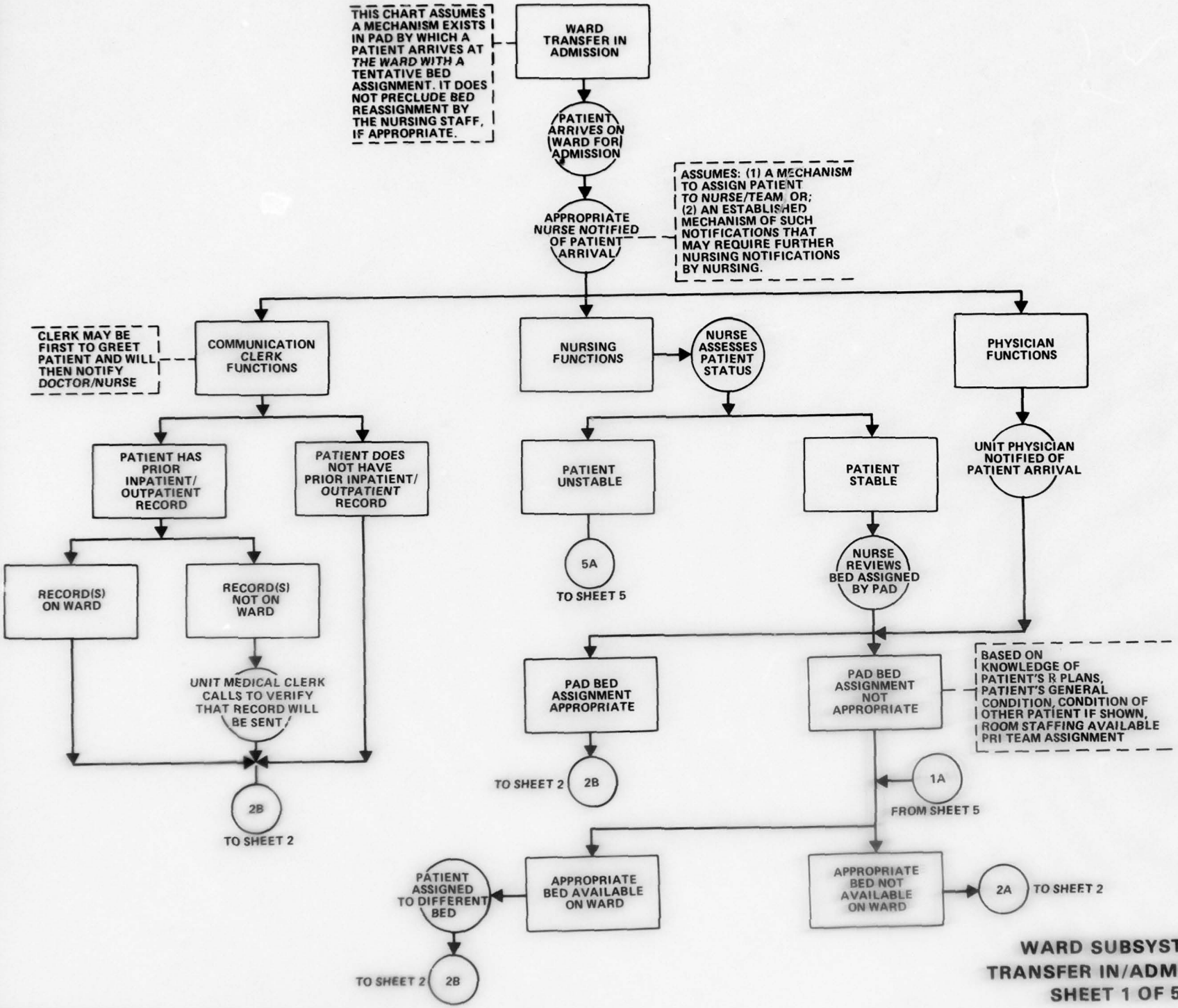


First perform Action A. Then perform Process B, which is itself flow-charted elsewhere in this set of charts. After B is completed, return to here and perform Action C.

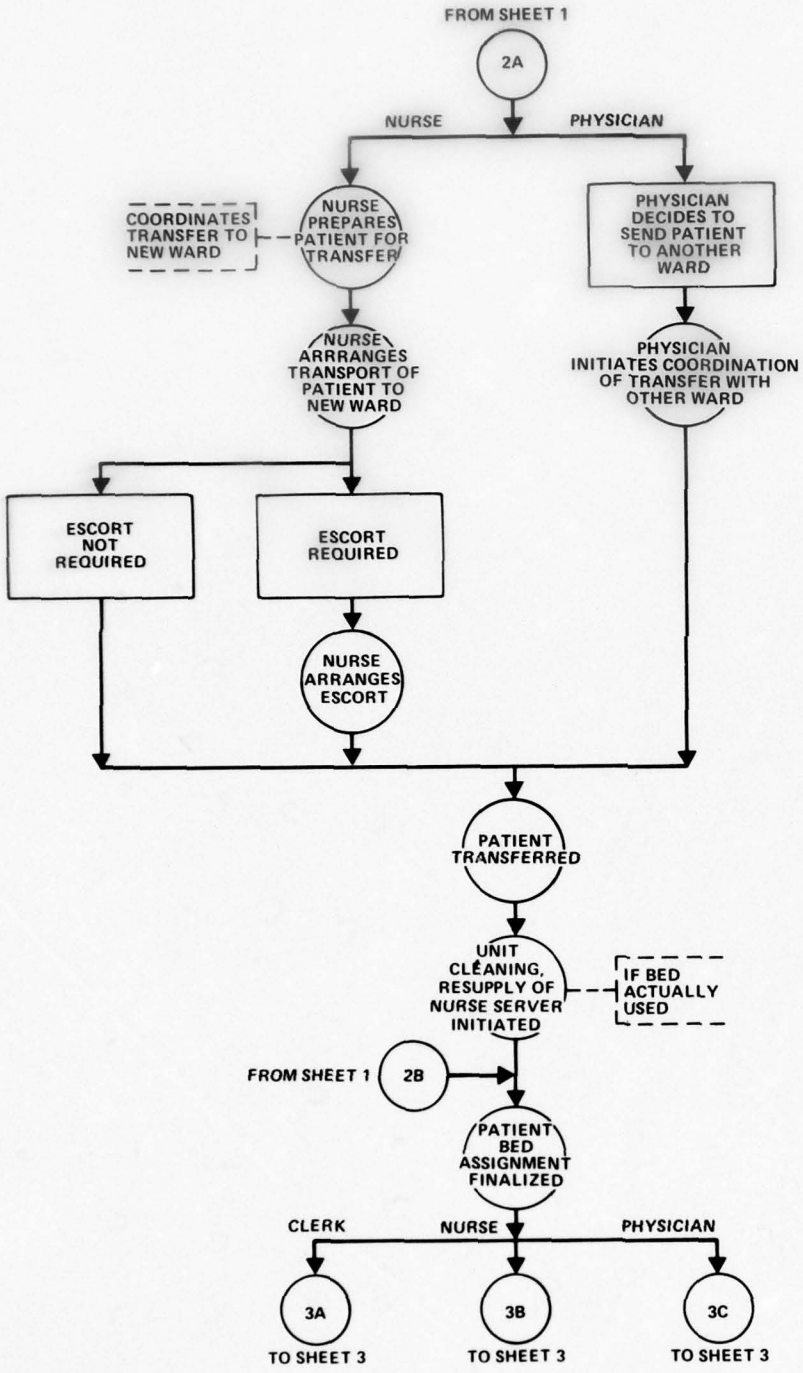


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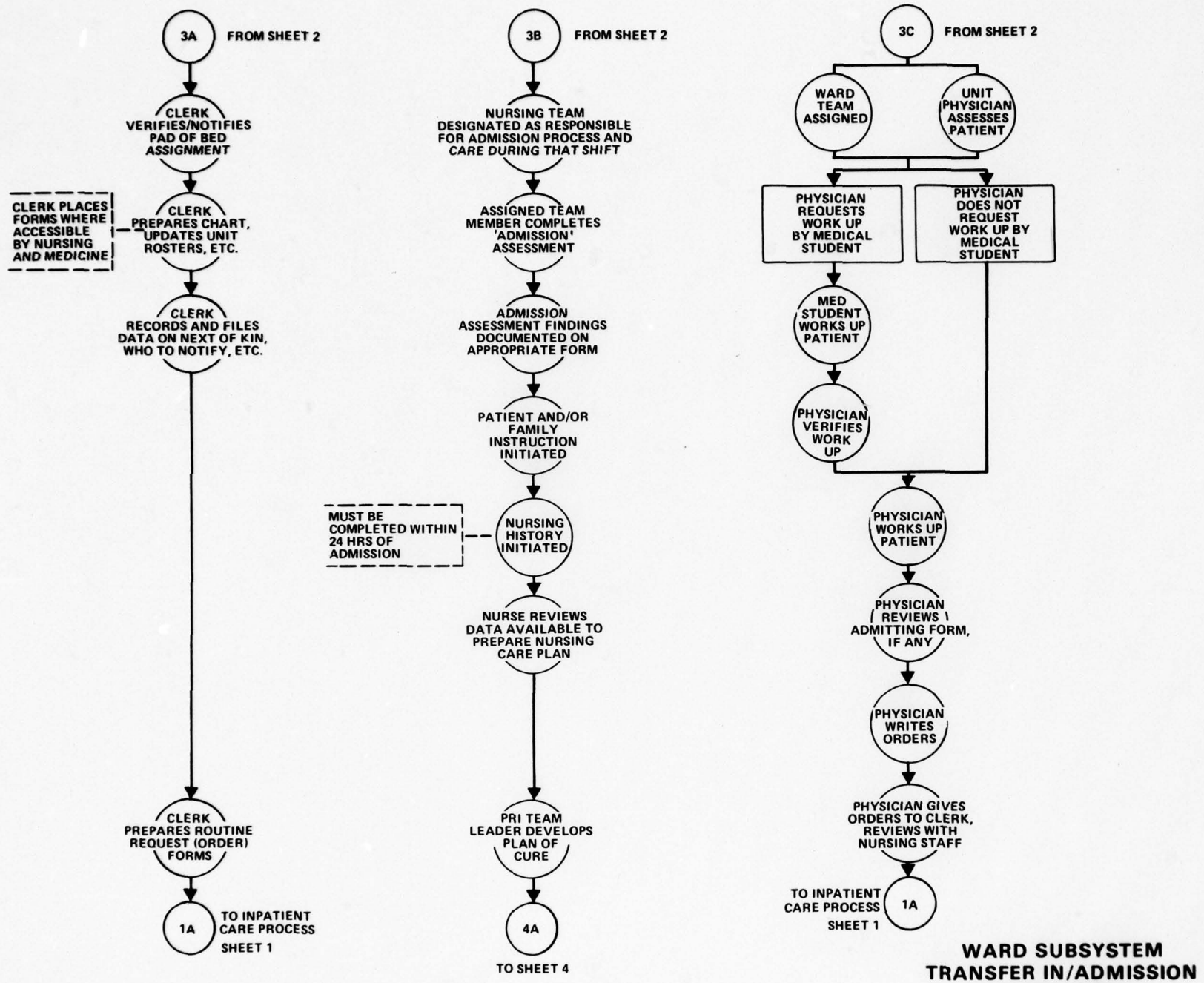
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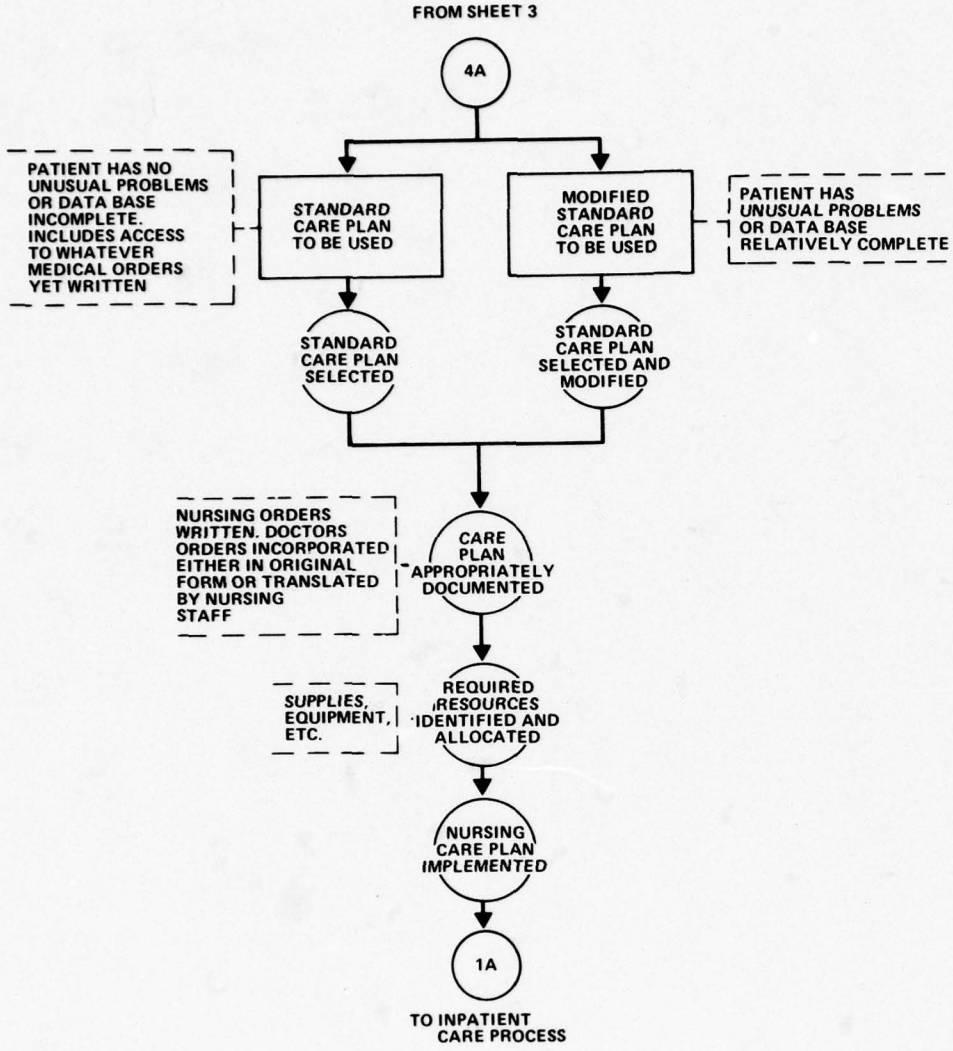
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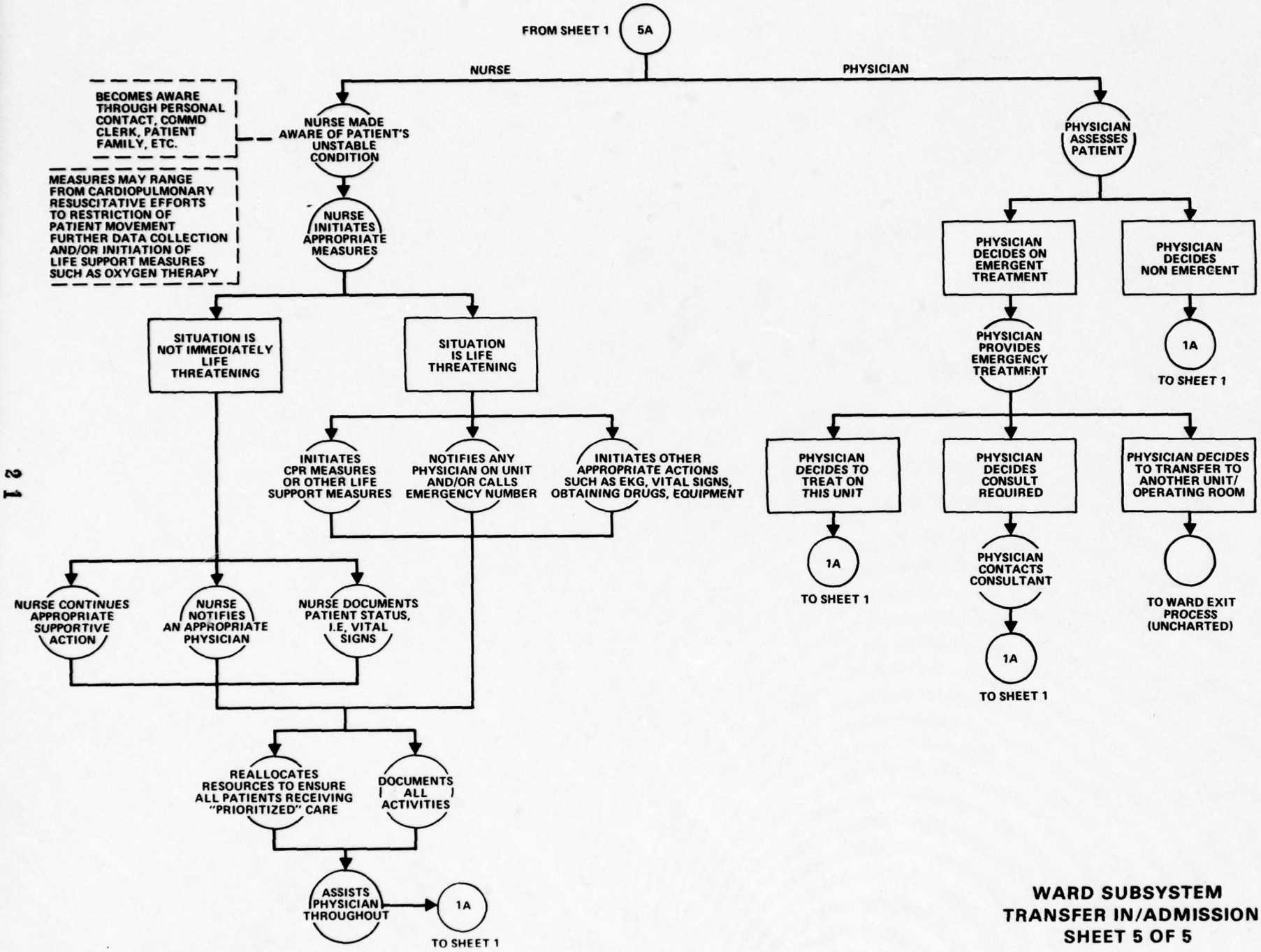
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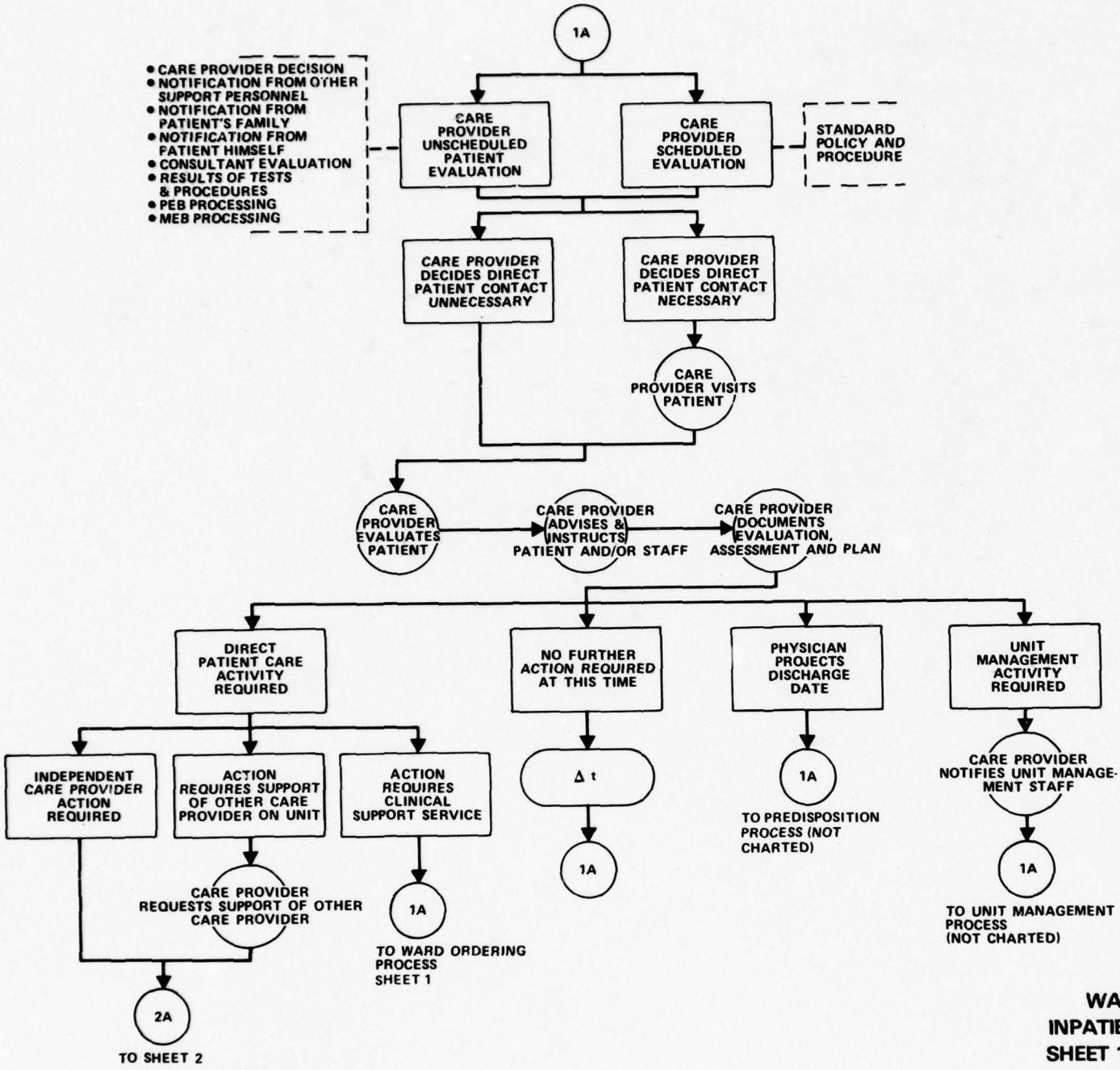
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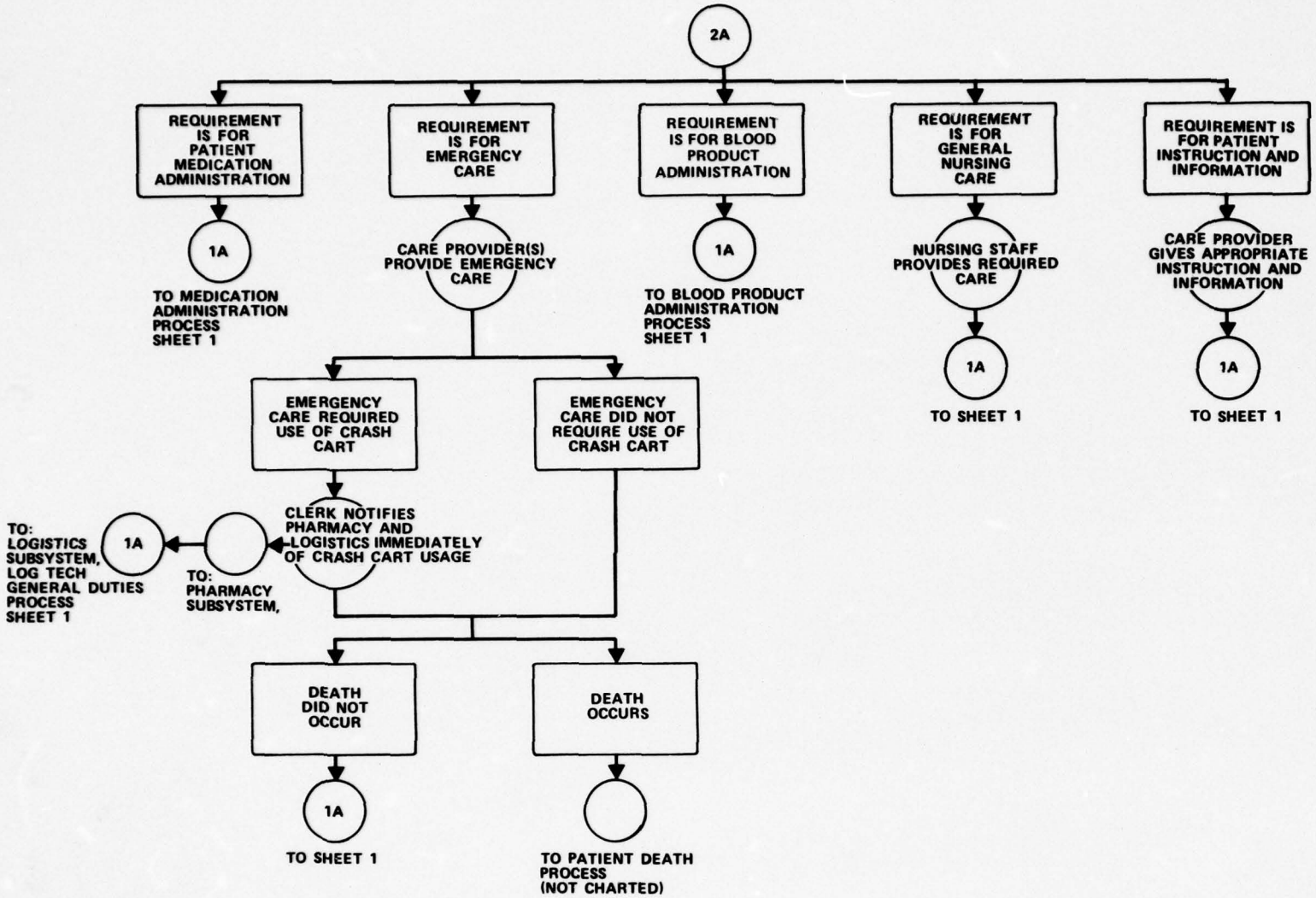
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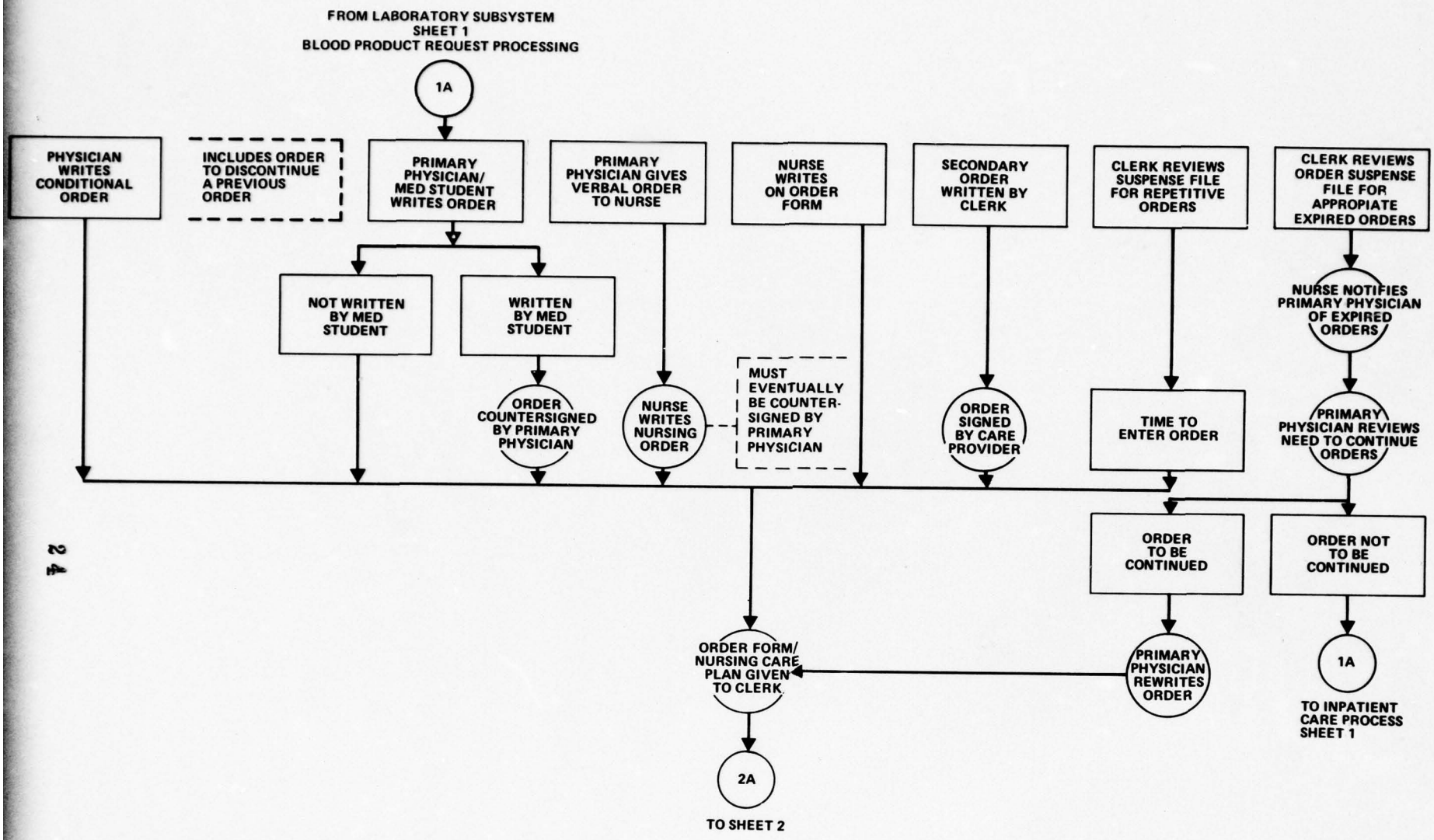
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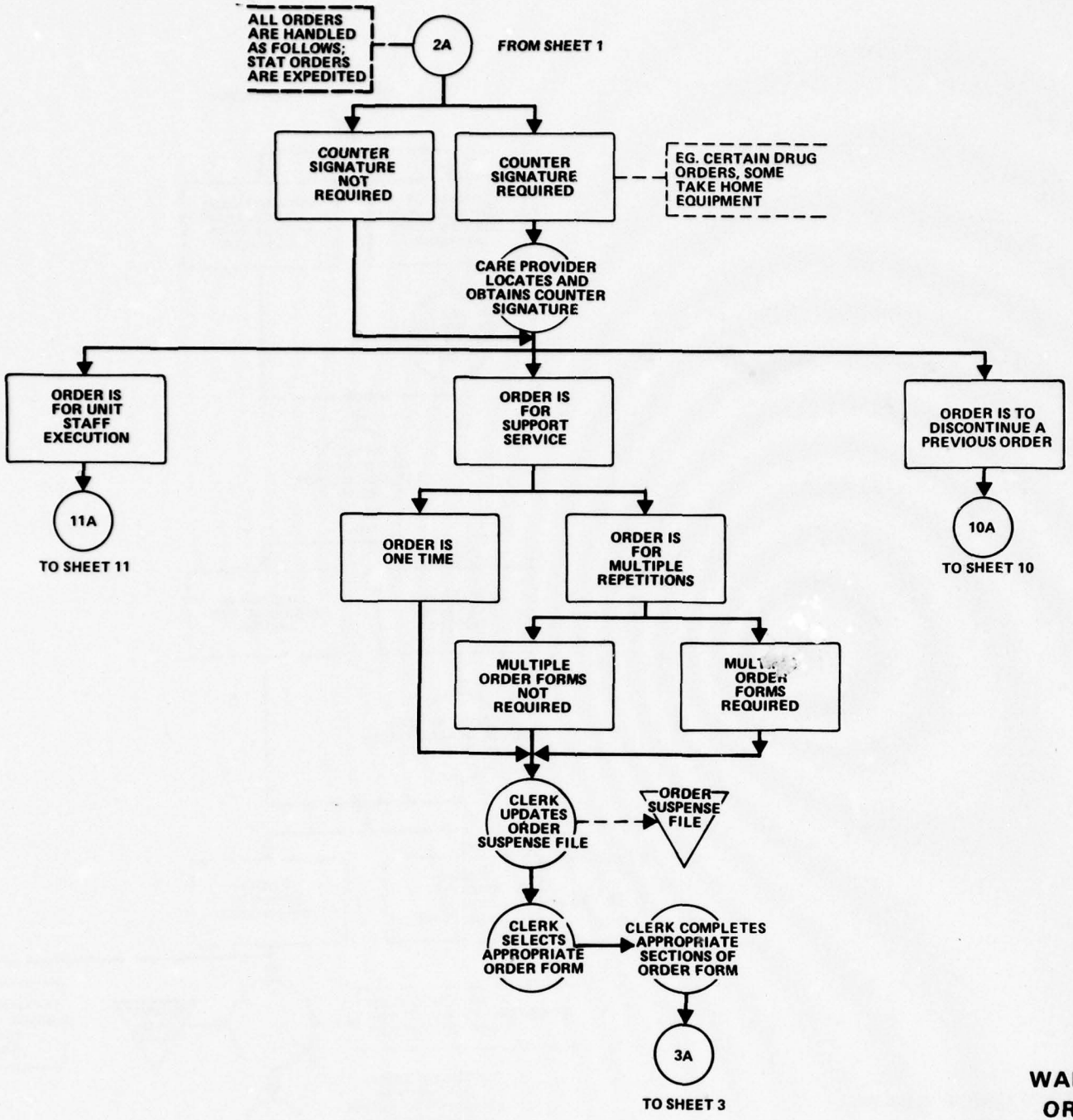
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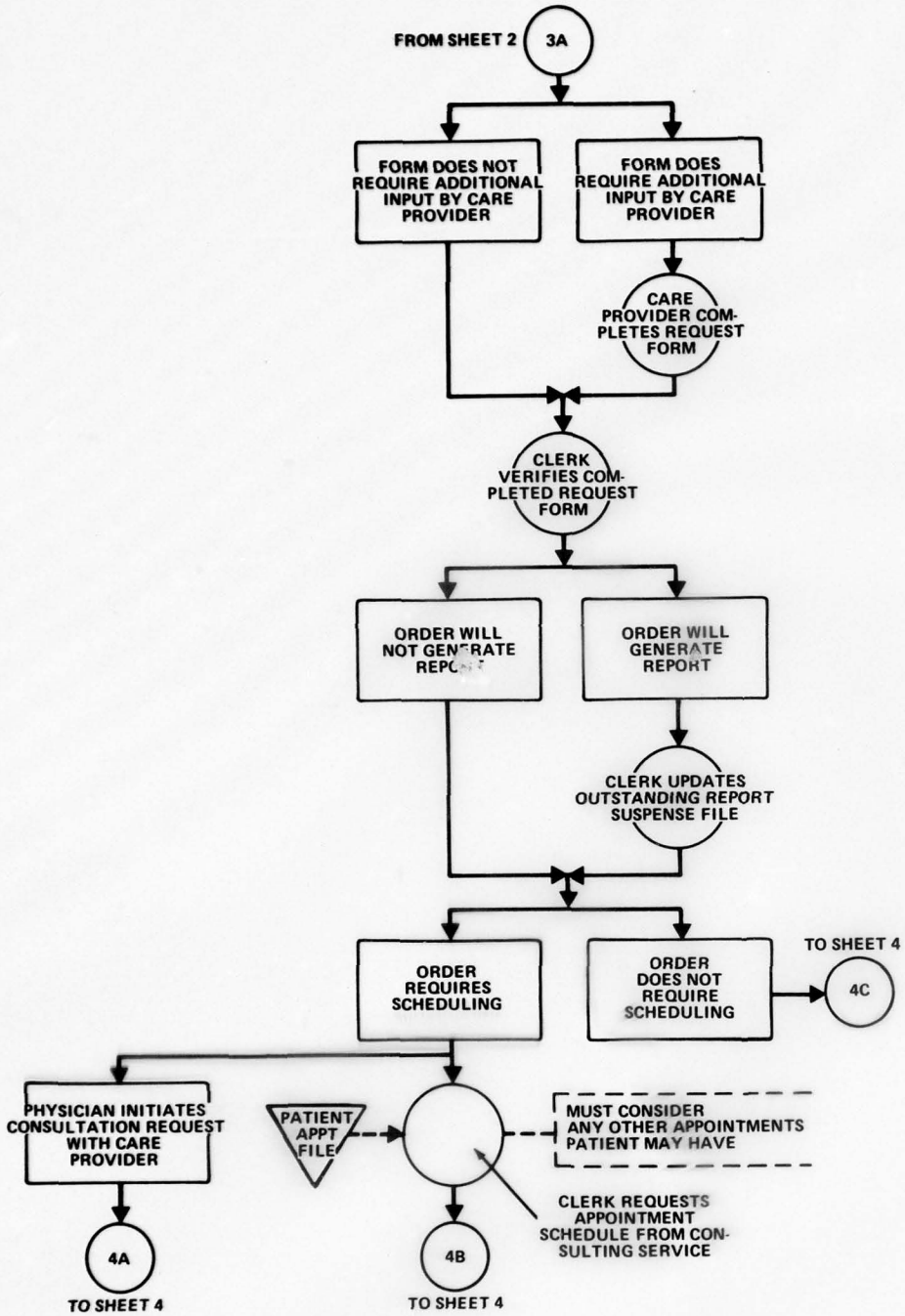
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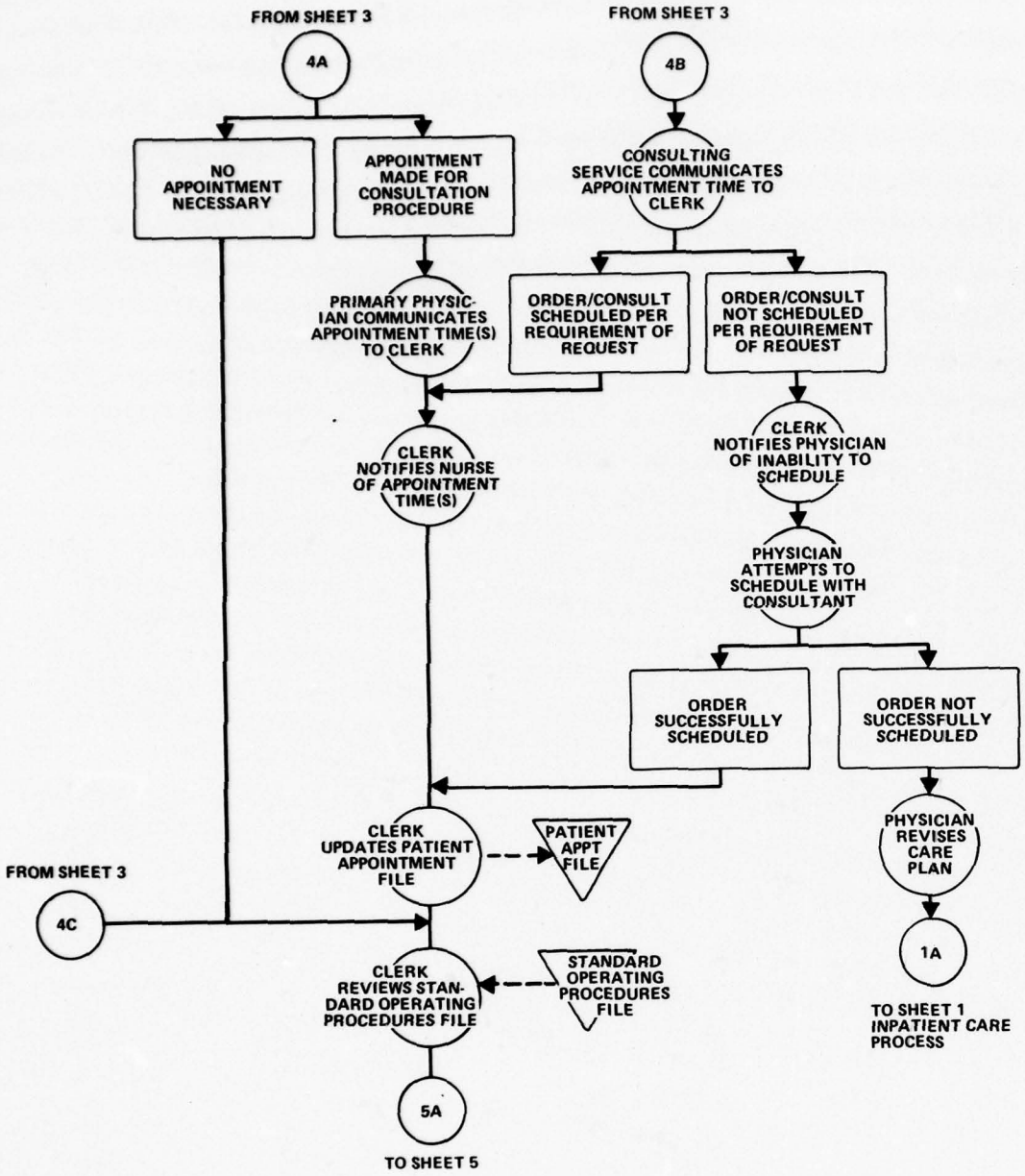
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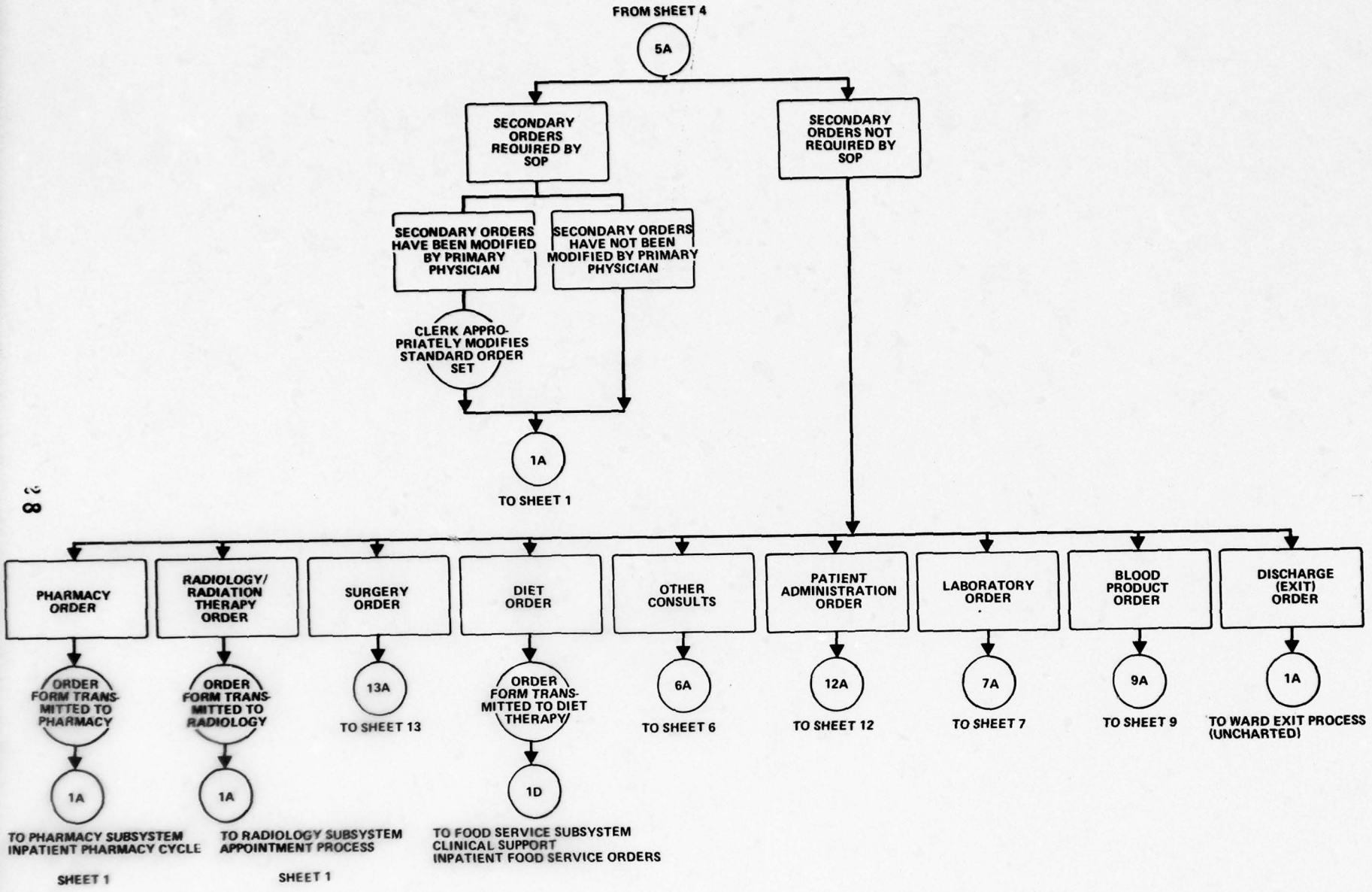
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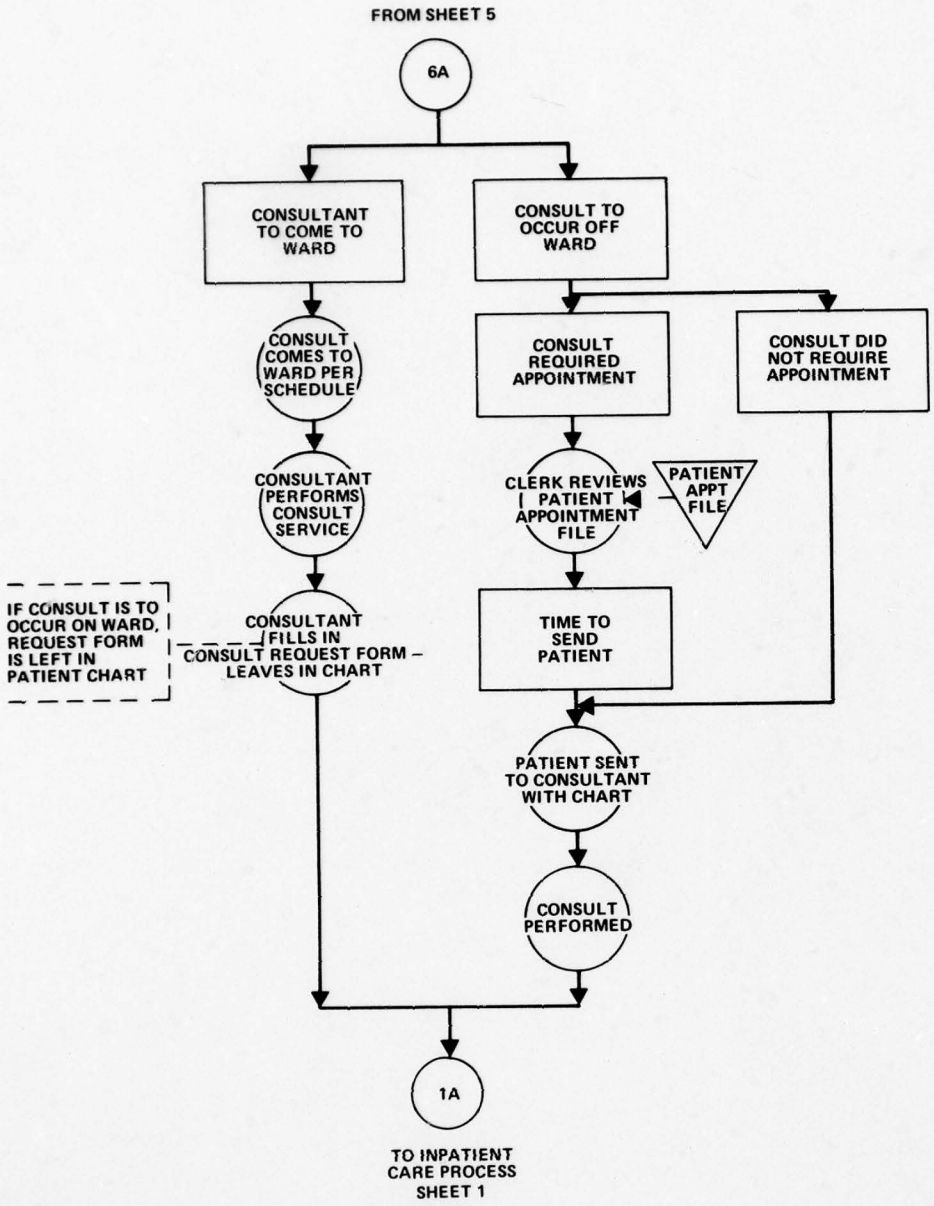
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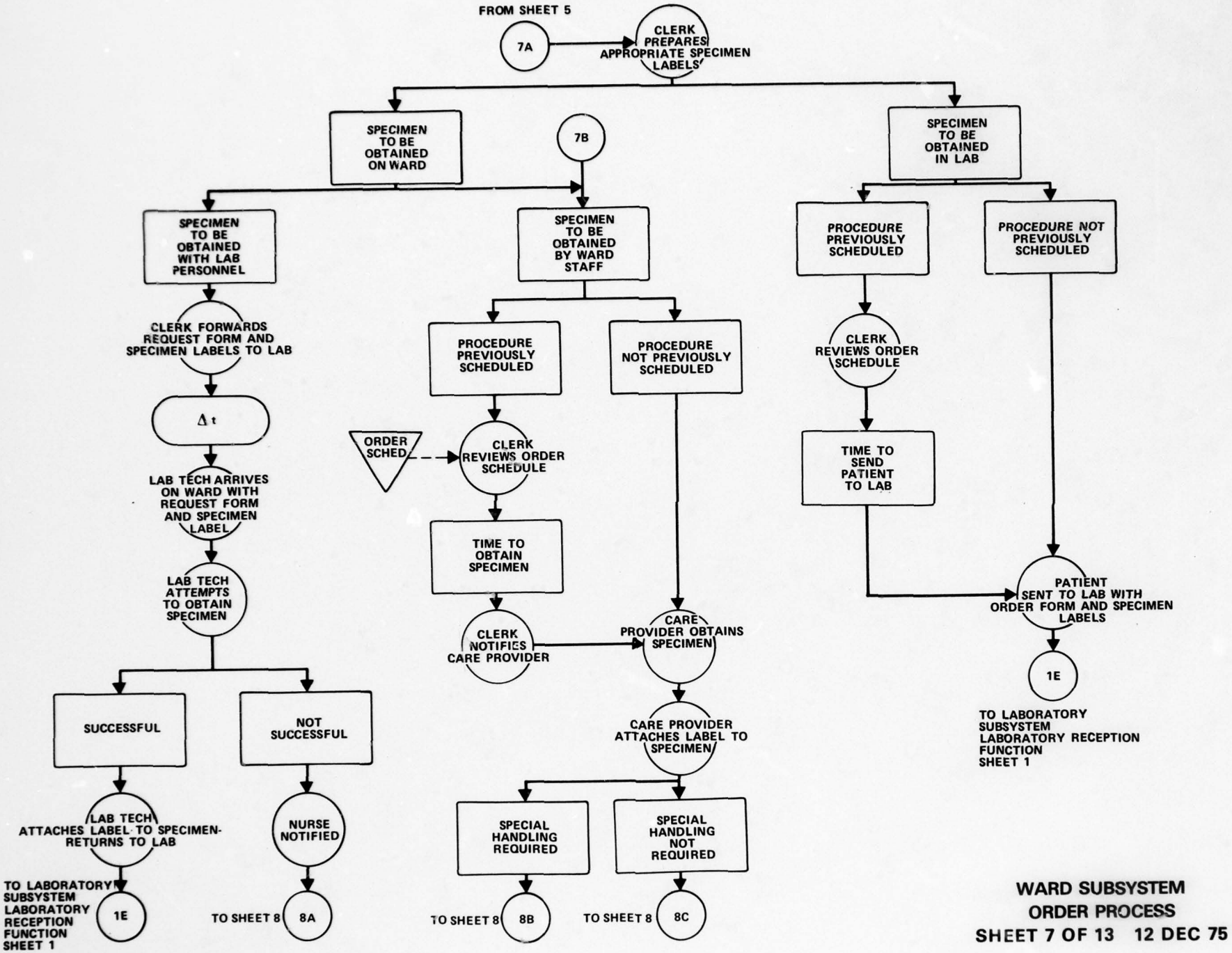
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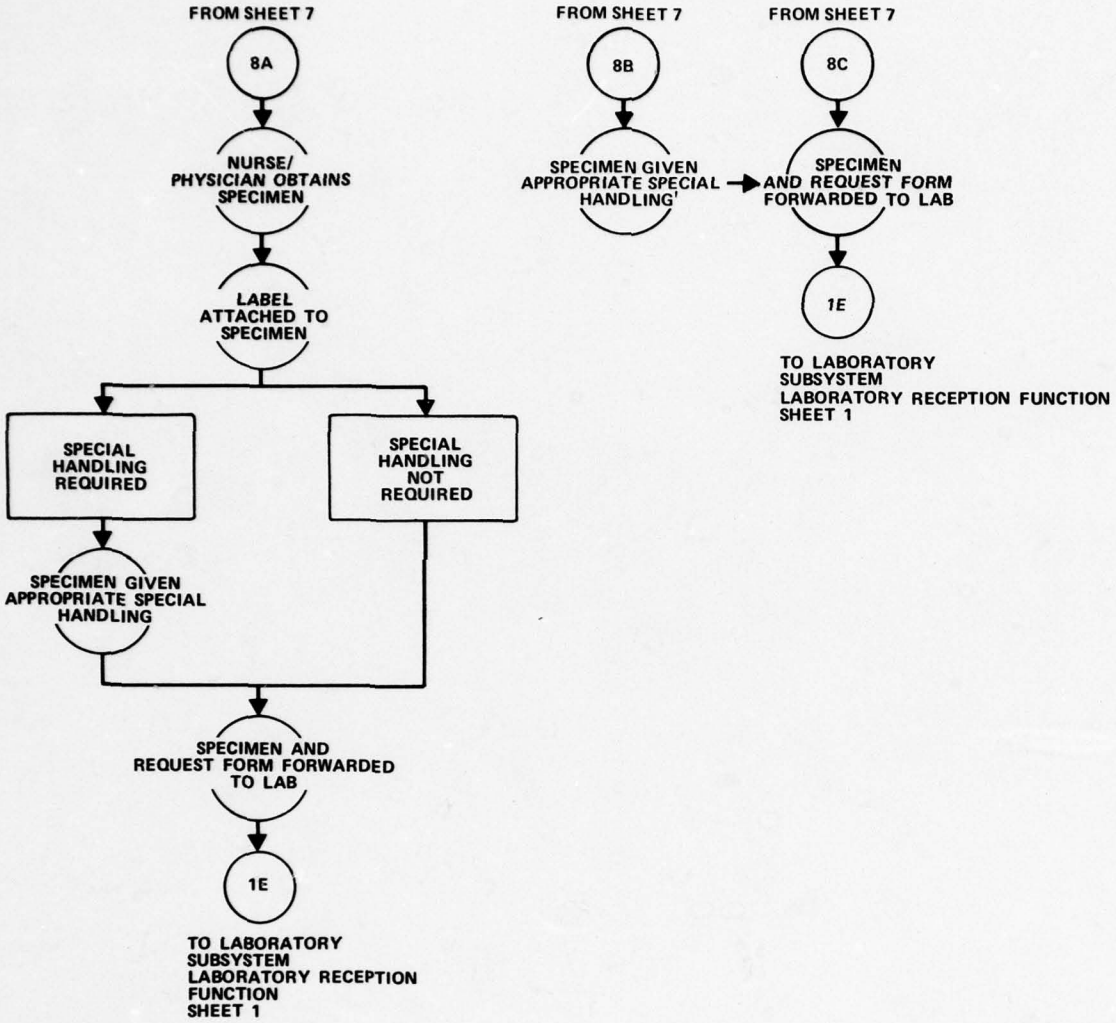
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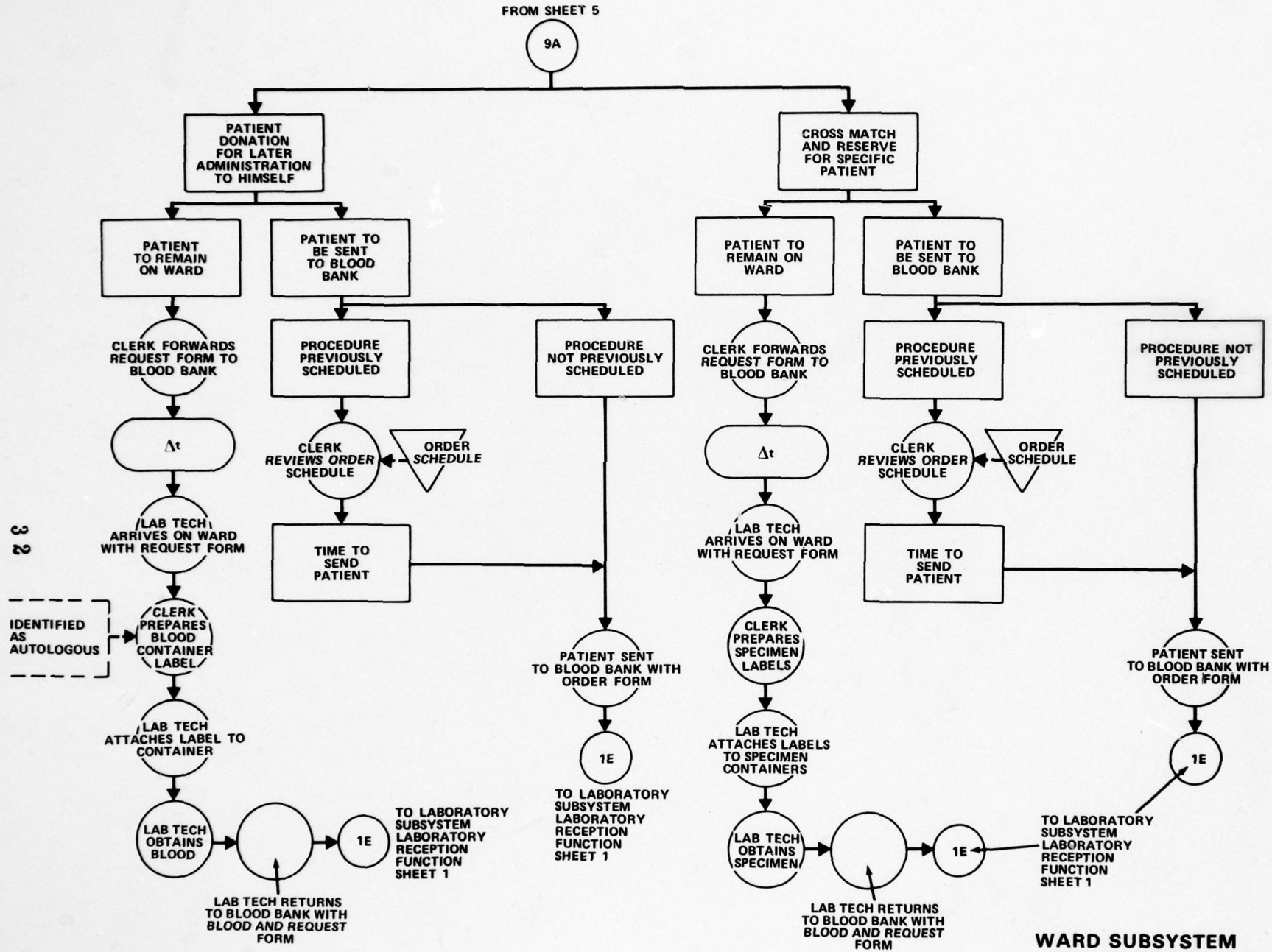
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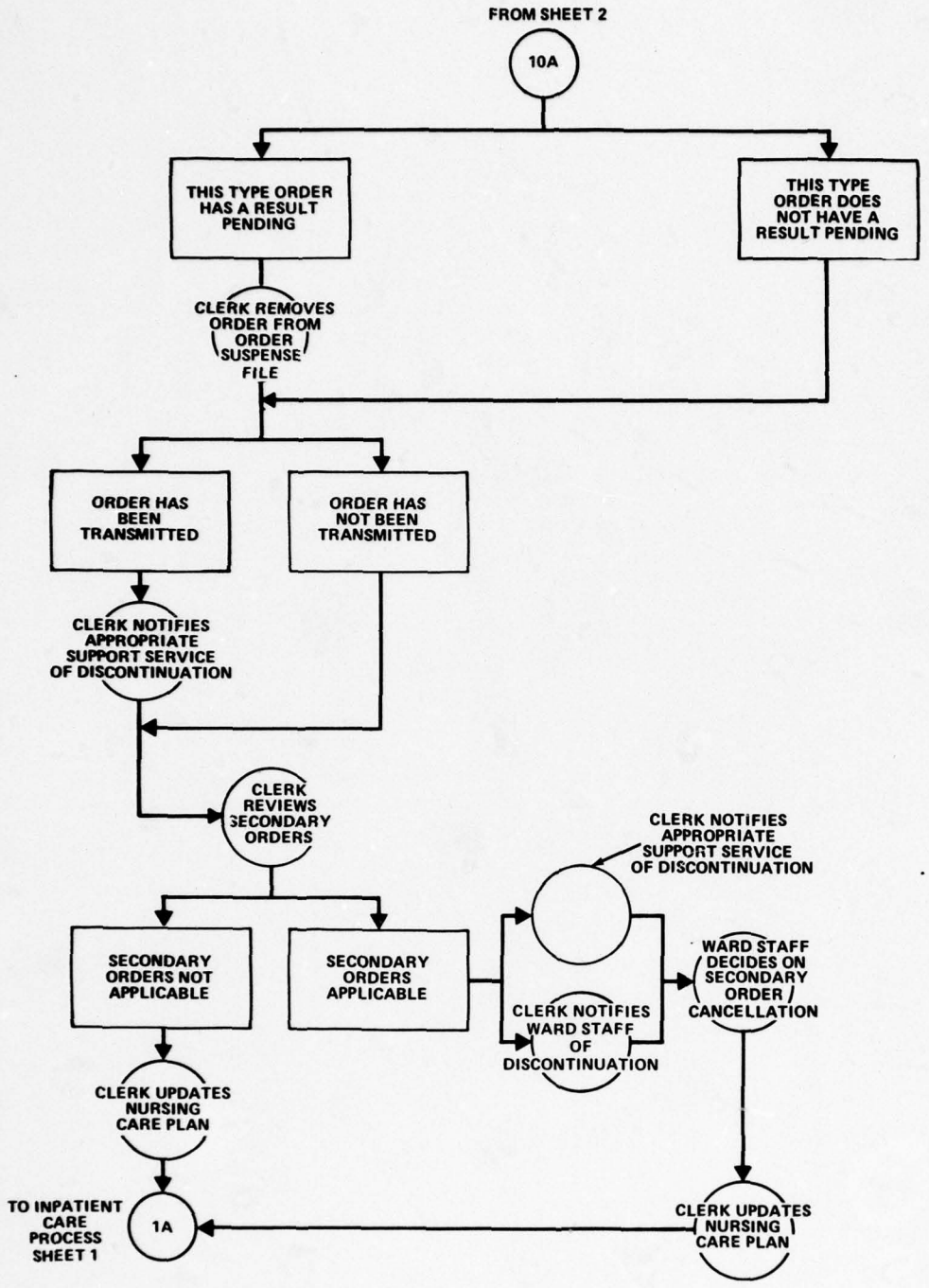
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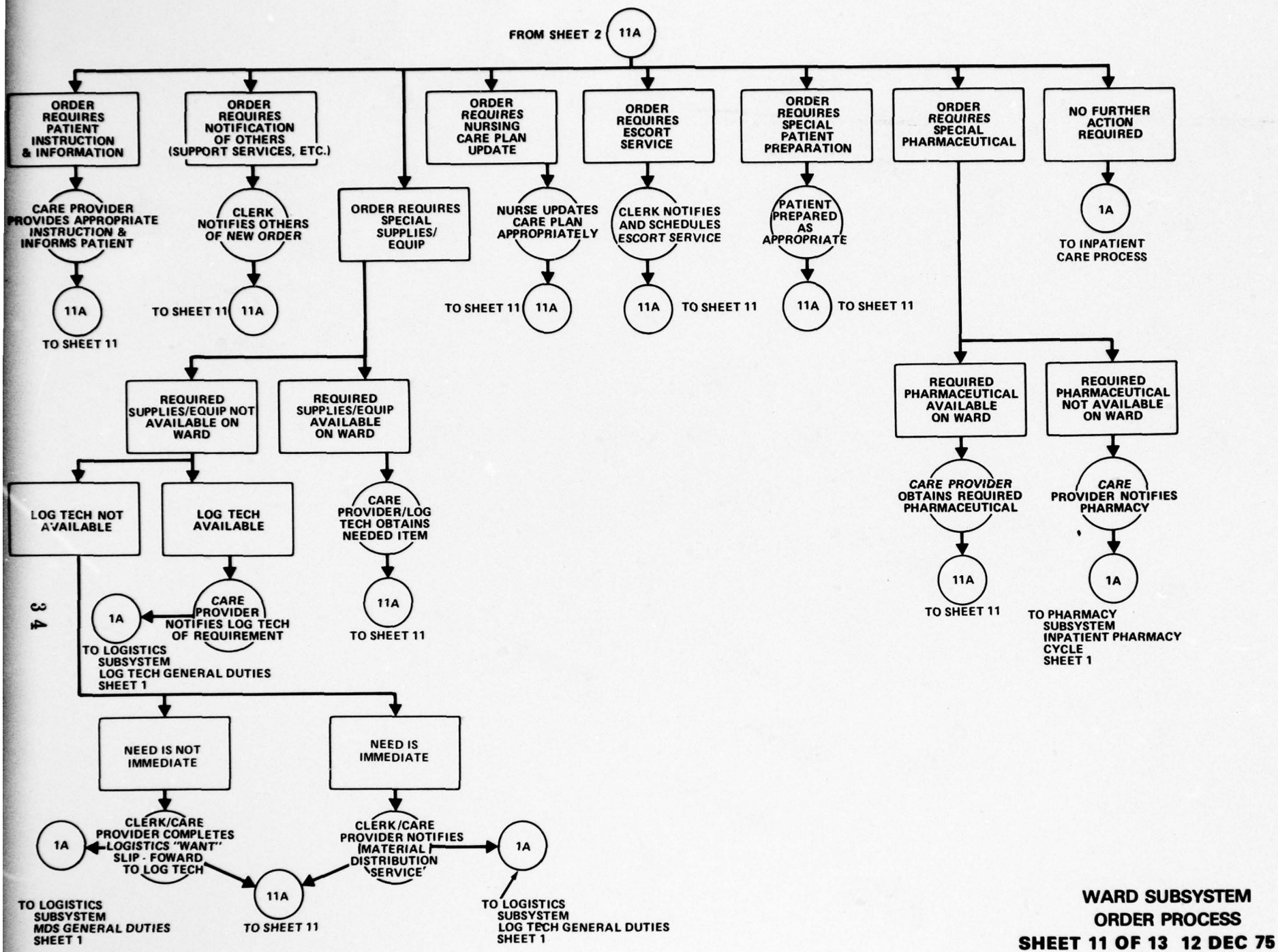
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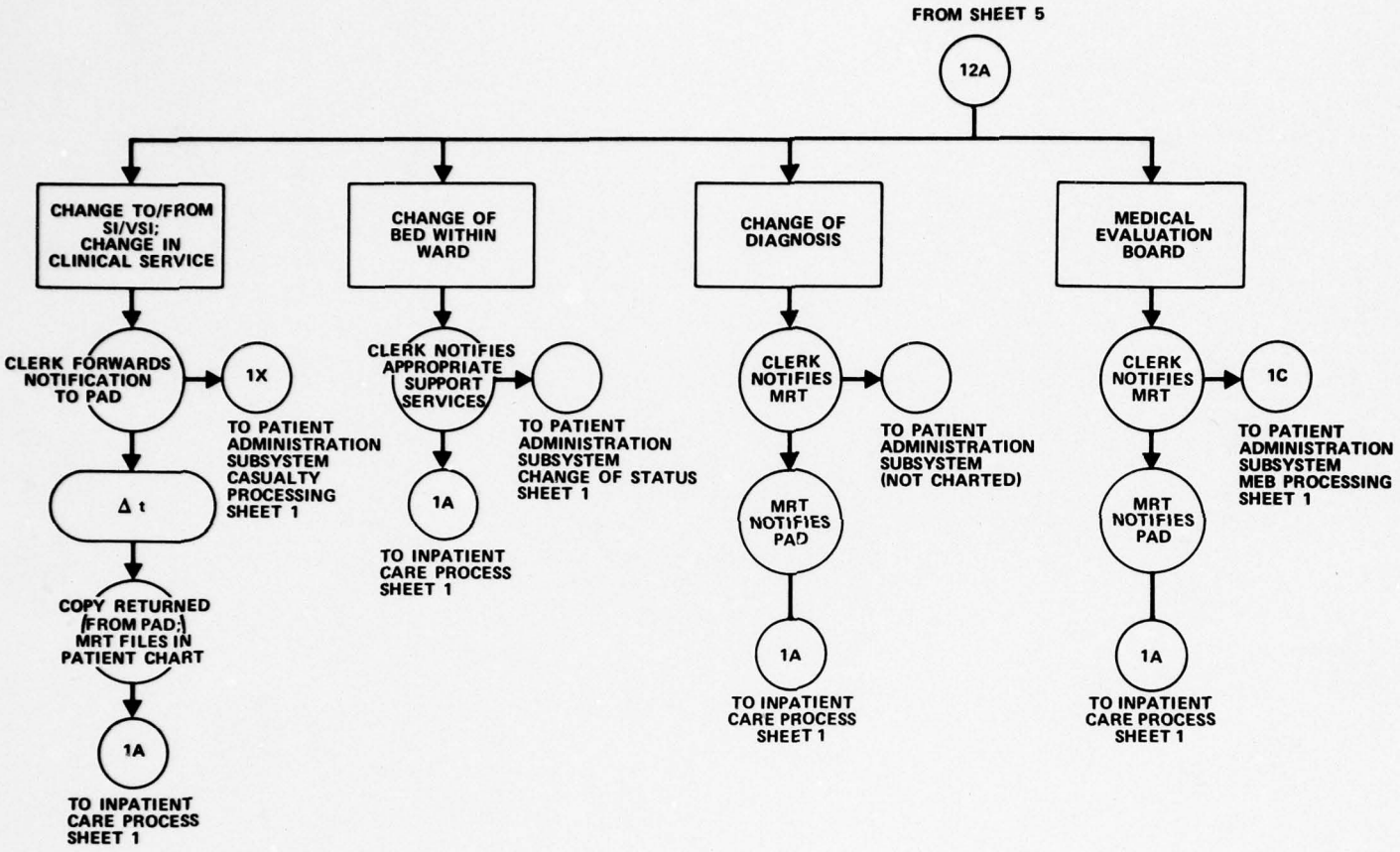
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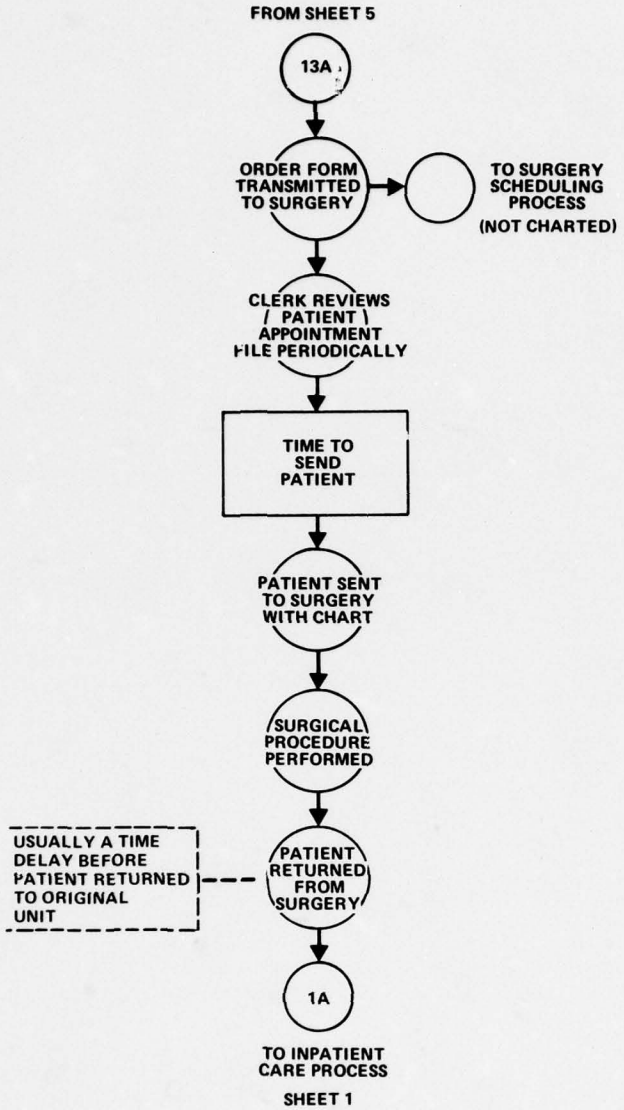
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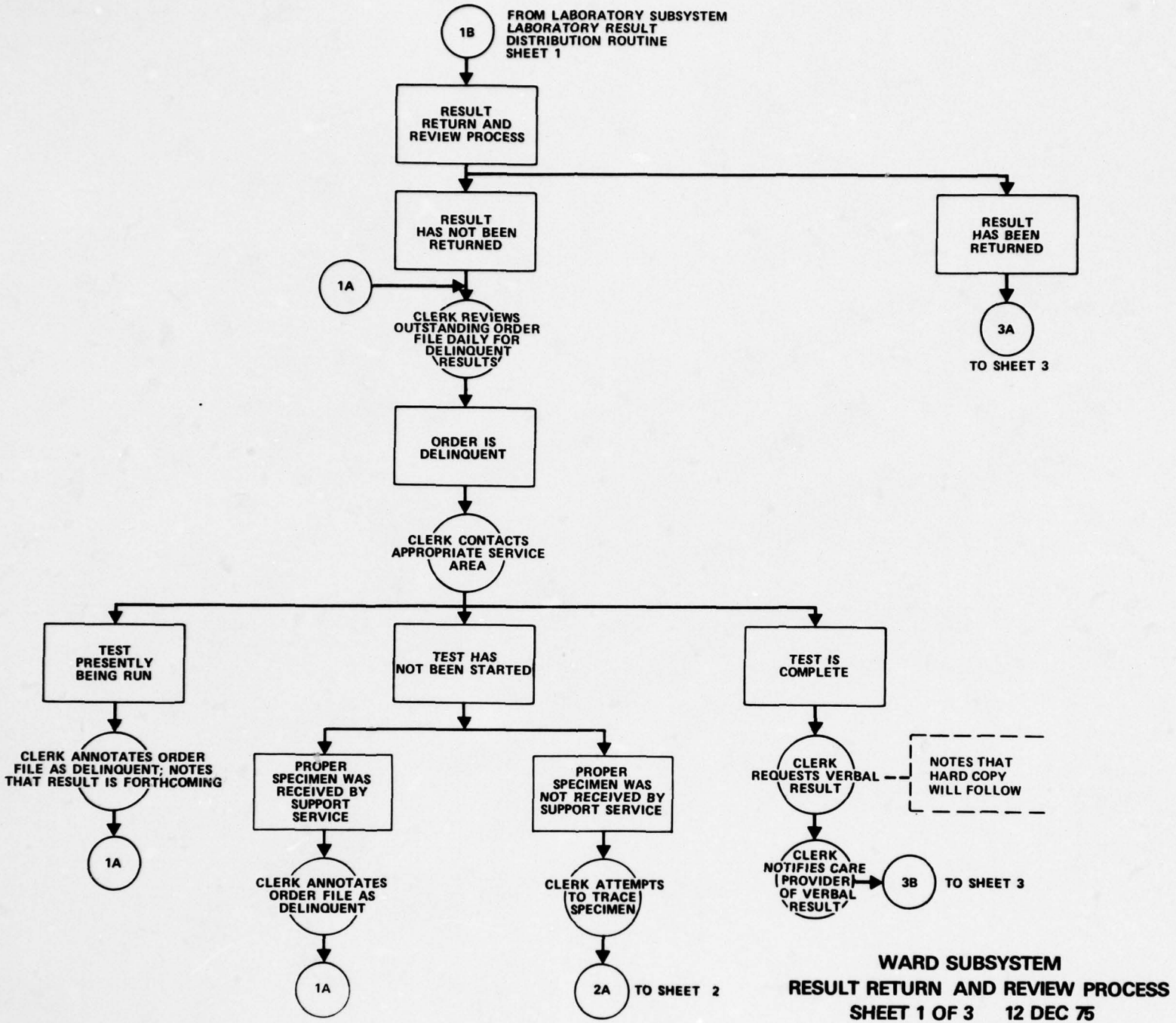
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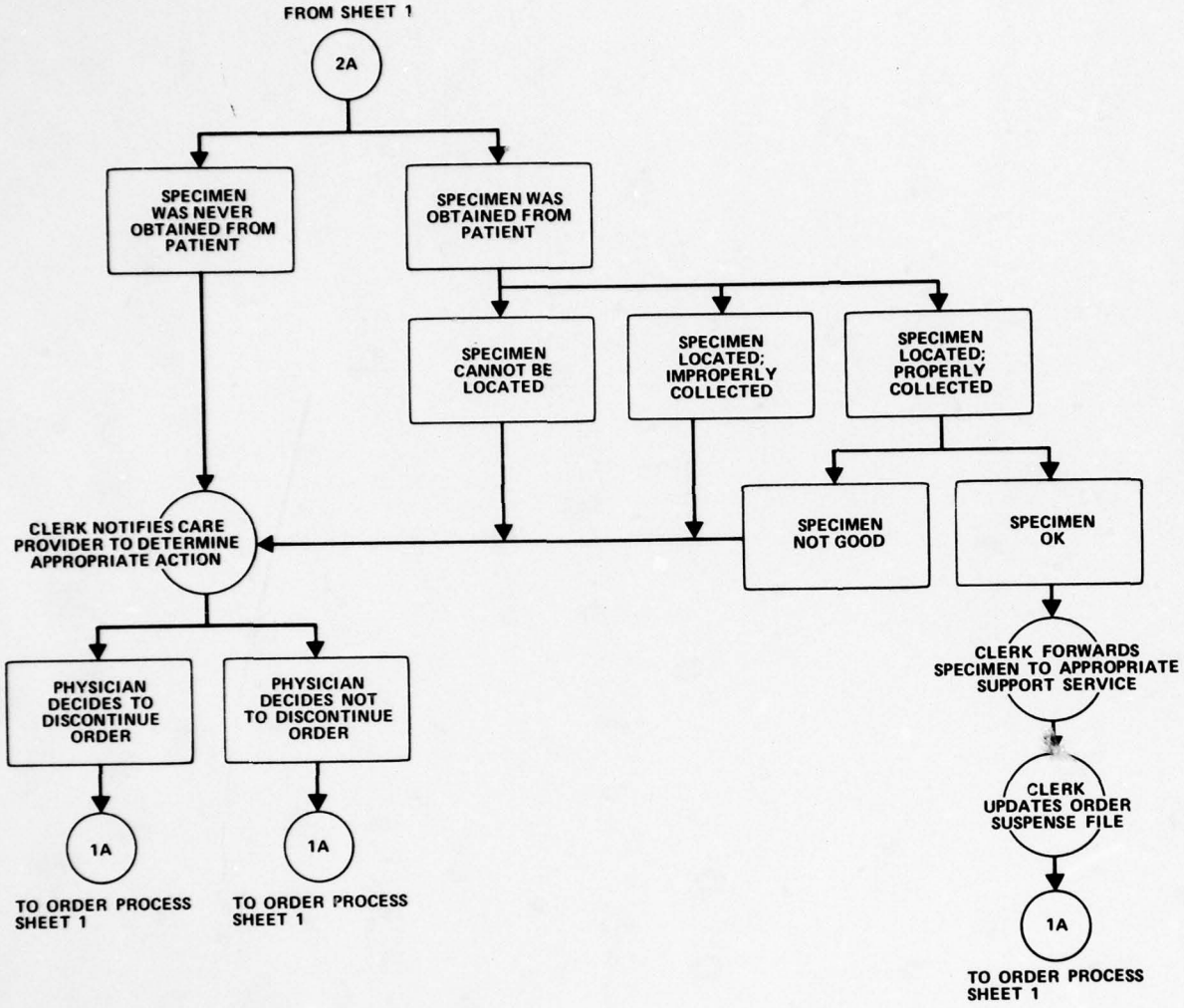


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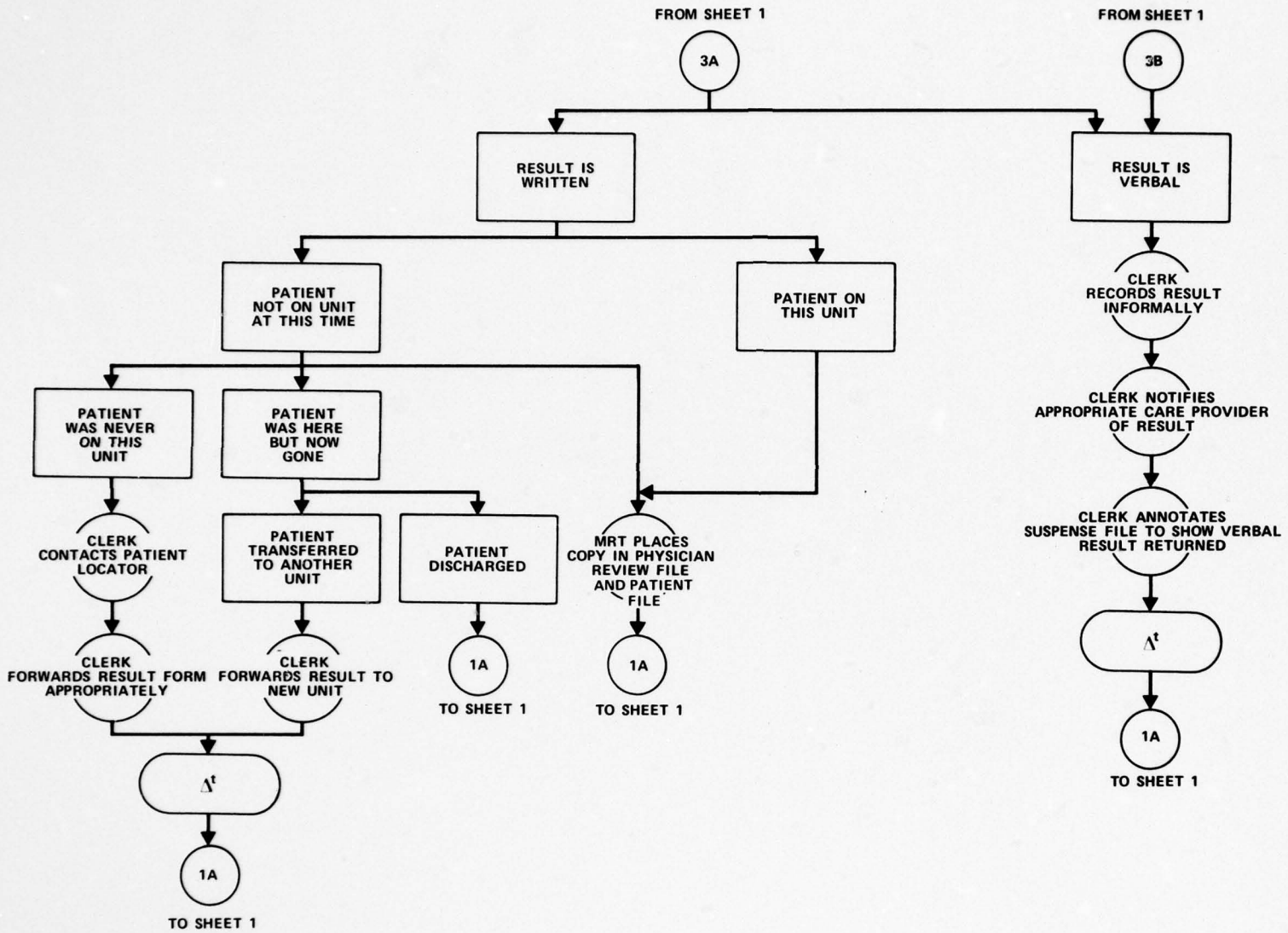


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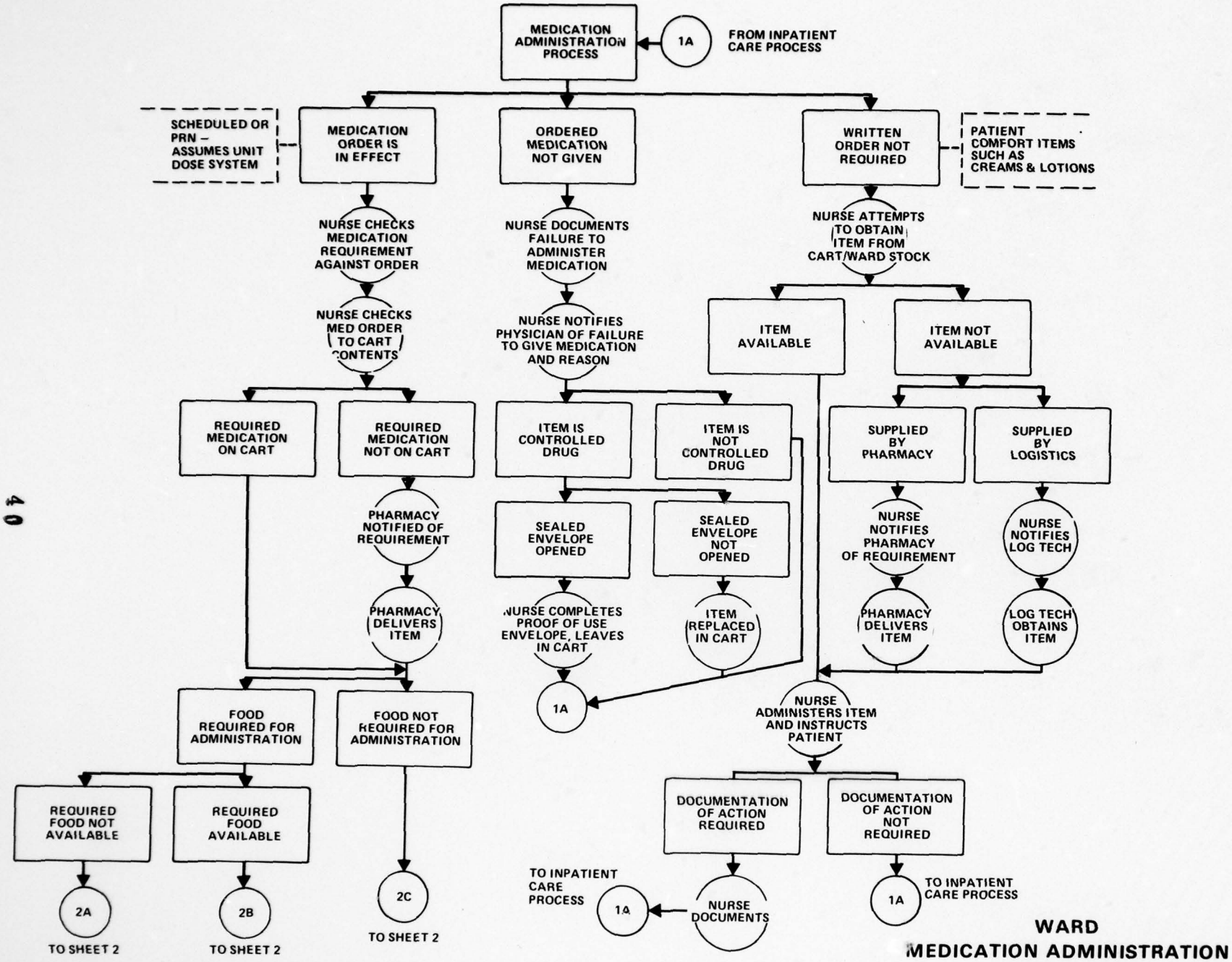

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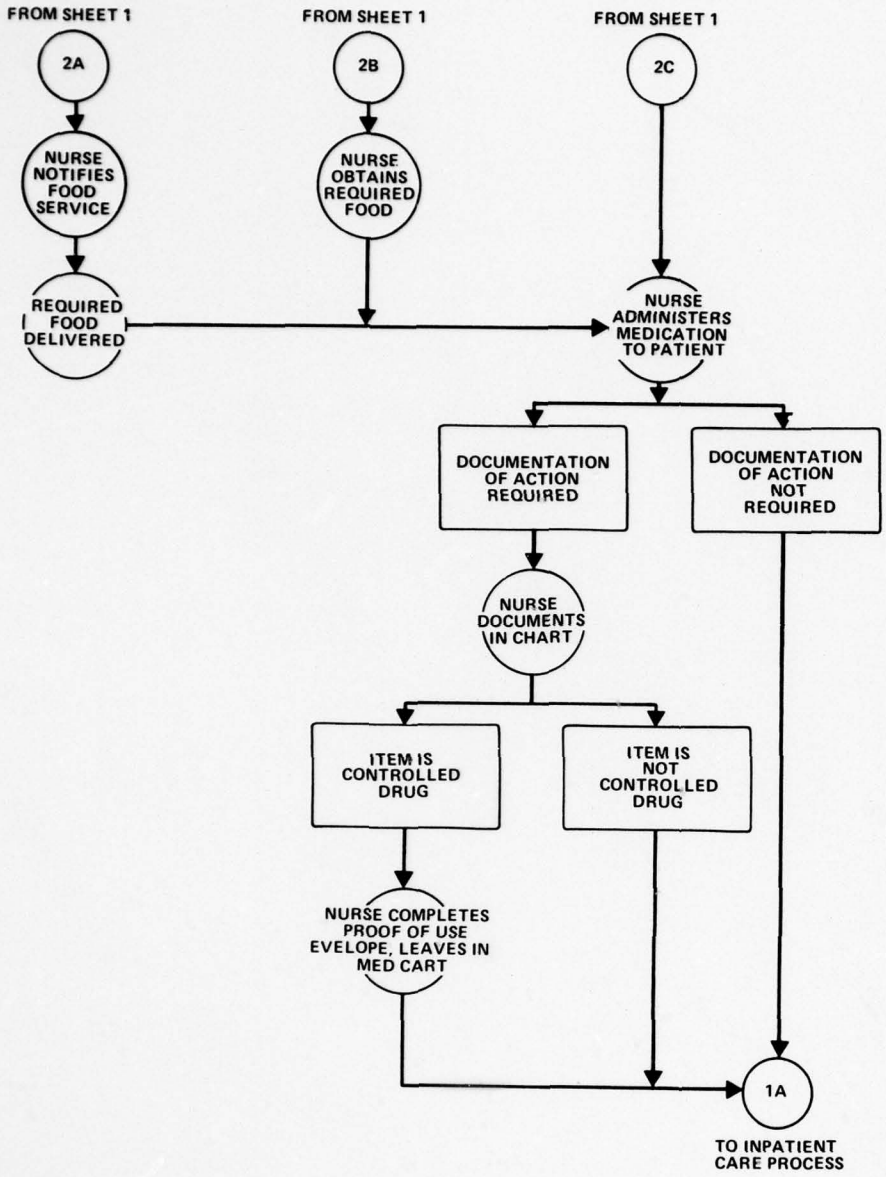
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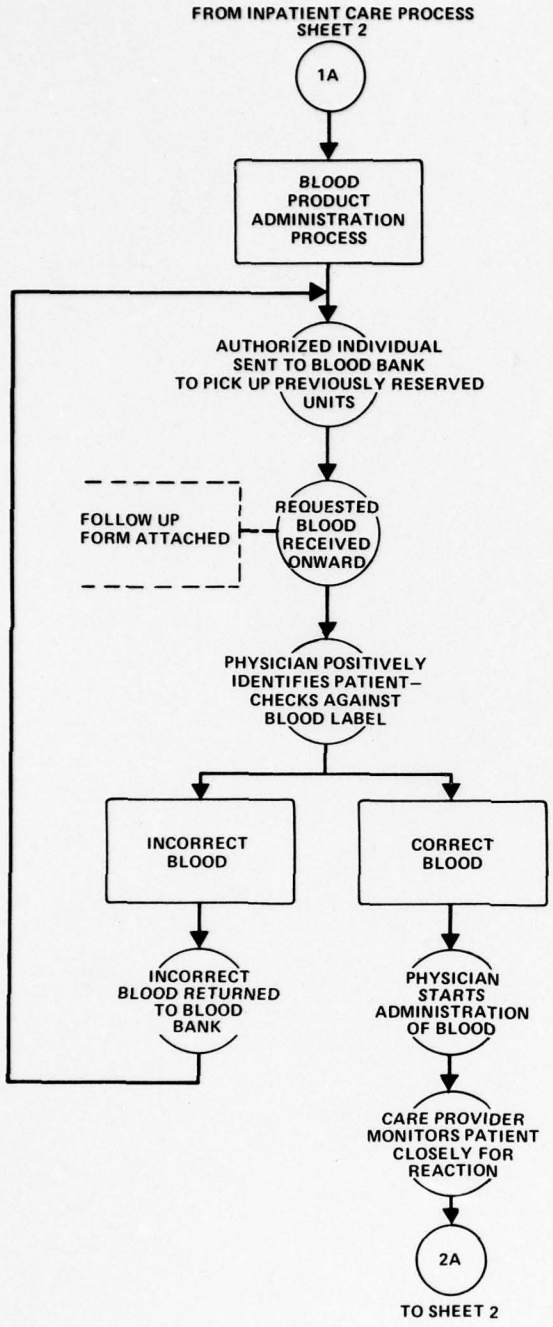
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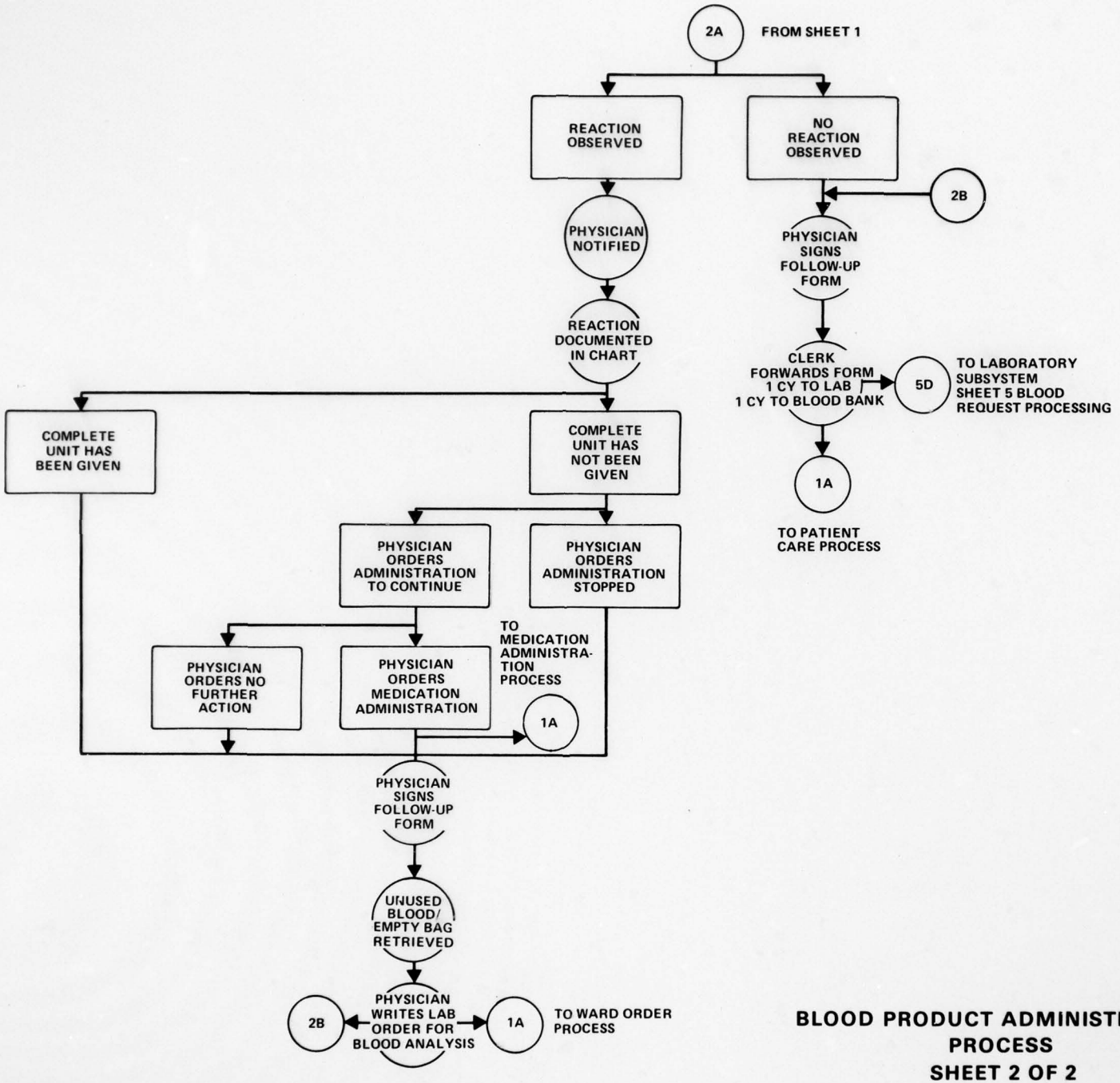
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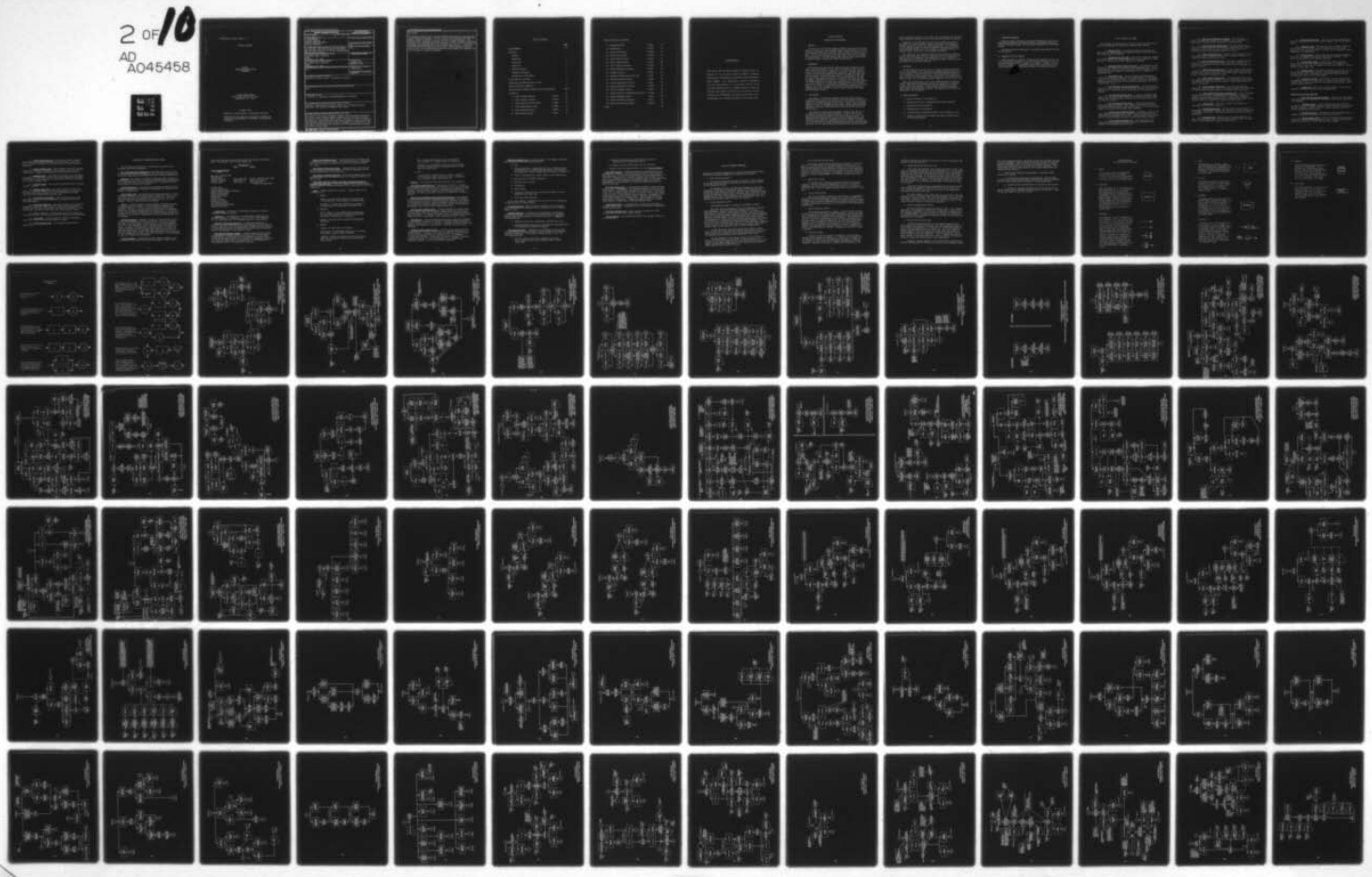
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TRIMIS-Army Technical Report 1-3

CLINICS SUBSYSTEM

PROCESS
CONDITION-ACTION DIAGRAM
FLOWCHARTS

US ARMY TRIMIS AGENCY
Walter Reed Army Medical Center
Washington, D.C. 20012

November 1976

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER TRIMIS-ARMY-TR-1-3	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE *(and Subtitle)* CLINICS SUBSYSTEM PROCESS CONDITION-ACTION DIAGRAM FLOWCHARTS		5. TYPE OF REPORT & PERIOD COVERED 6. PERFORMING ORG. REPORT NUMBER N/A
7. AUTHOR(s) CPT Frederick Bock, IV; David Weinberg; MAJ Ben Smith, DDS; Matt Liang, MD; John Cello, MD; MAJ Sharon Bystran, RN; LTC Mary Messerschmidt, RN; CPT Mike Strohmeyer		8. CONTRACT OR GRANT NUMBER(s) N/A
9. PERFORMING ORGANIZATION NAME AND ADDRESS USA TRIMIS Agency (SGTR-DO) WRAMC Washington, DC 20012		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS USA TRIMIS Agency (SGTR-DO) WRAMC Washington, DC 20012		12. REPORT DATE November 1976 13. NUMBER OF PAGES 74
14. MONITORING AGENCY NAME & ADDRESS(*if different from Controlling Office*) N/A		15. SECURITY CLASS. (*of this report*) UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE N/A

16. DISTRIBUTION STATEMENT *(of this Report)*

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17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

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18. SUPPLEMENTARY NOTES

For use in conjunction with TRIMIS-ARMY-TR-1-1 Overview

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Flowchart, Condition-Action Diagram, Health Care, Information System, Ambulatory Care, Hospital, Outpatient Care, Clinic

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

The purpose of the Clinics Subsystem "Manual" condition-action flowcharts is to offer an easily readable graphic representation of the major processes which make up an outpatient clinic system. The detail is of such a nature as to depict all clinic operations except actual details of tasks, so that what the physician actually does in the way of treatment for each patient, or how the medical outprocessing clerk actually fills in specific forms, is beyond the scope of these charts.

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Block #20:

The processes charted herein represent methods being employed in an outpatient clinic modeling environment. As such, they are not necessarily indicative of general practices currently in use in any single military hospital. The modeling effort represents an attempt not only to update the general efficiency and quality of outpatient health care delivery, but also to try to parallel the operating conditions expected in the new Walter Reed facility. In this way, potential difficulties with work flow, patient timing, personnel training, and so forth, can be discovered and rectified early, making the transition into the new facility as smooth as possible.

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ACKNOWLEDGMENTS

These charts were developed through the combined efforts of personnel of the US Army Tri-Service Medical Information Systems Agency (TRIMIS-Army) and the Walter Reed Army Medical Center (WRAMC). This undertaking, conducted concurrently with the establishment of an outpatient medical clinic operations modeling project at WRAMC, spanned 15 months and utilized both medical professional and systems analyst personnel from TRIMIS-Army, and medical professional, para-professional, and auxiliary personnel from the Model Clinic.

CLINICS SUBSYSTEM

NARRATIVES FOR FLOWCHARTS

1. PURPOSE

The purpose of the Clinics Subsystem "Manual" condition-action flowcharts is to offer an easily readable graphic representation of the major processes which make up an outpatient clinic system. The detail is of such a nature as to depict all clinic operations except actual details of tasks, so that what the physician actually does in the way of treatment for each patient, or how the medical outprocessing clerk actually fills in specific forms, is beyond the scope of these charts.

2. BACKGROUND

While the mission and specific functions of each outpatient clinic type is different (vastly in some cases) from those of other clinics, there exists a good deal of repetition of routine functions among all clinics. Patients must be appointed, they arrive, are seen, and leave in much the same way regardless of the medical problem for which they seek treatment. Clinics also range widely in both physical size and the size of their respective staffs. The system charted in the next few pages is designed to be useful for clinics of all sizes and types (including dental clinics whose major differences are also charted here). It is also reasonable to assume that certain portions of this system would not be useful in a non-military environment, and need not be implemented. All of the procedures and processes charted here have been implemented and are currently in use in a manual system at the Walter Reed Army Medical Center.

3. LIMITATIONS

The reader is cautioned to remember that these charts represent outpatient health care as delivered in a military hospital--with rules, regulations, limitations, and stipulations as set forth by the Surgeon General of the Army and members of his staff. Thus, certain processes, especially those of an administrative nature, closely parallel methods employed in civilian institutions while retaining military labels and nomenclatures.

The processes charted herein represent methods being employed in an outpatient clinic modeling environment. As such, they are not necessarily indicative of general practices currently in use at the Walter Reed Army Medical Center or any other military hospital. The modeling effort represents an attempt not only to update the general efficiency and quality of outpatient health care delivery, but also to try to parallel the operating conditions expected in the new Walter Reed facility. In this way, potential difficulties with work flow, patient

timing, personnel training, and so forth, can be discovered and rectified early, making the transition into the new facility as smooth as possible.

Operations in the new facility will require sizeable increases in the number of clerical personnel required to operate this subsystem as charted, especially if done in a totally manual mode. The assumption is that adequate numbers of additional personnel are available to fill these positions and that they can be trained to adequately perform all required duties, especially in an automated environment.

The reader must also understand that the military medical community places a great deal more stress on outpatient care at the hospital than does the civilian community. This results from a lack of "private" practitioners in the military and corresponds to office calls of private physicians in the civilian community.

4. OBJECTIVES

The overriding goal of any clinic is to provide top-quality health care to its patients. This requires the bringing together of nearly all of the hospital's services--both professional and non-professional--at the time and place where a need occurs. As outpatient care needs vary over a period of time depending on the seasons, etc., the clinic must be geared to give care in an orderly fashion regardless of the patient load.

Much work was done early in the clinic modeling effort to optimize patient appointing and scheduling, and improve patient flow within the clinic. Also, test results and reporting and maintenance of patient records have been emphasized. This work has yielded an environment where repeat testing, patient annoyance, and physician misuse have been minimized--if not eliminated.

5. EXPECTED BENEFITS

a. Greater flexibility and capability.

b. Improved utilization of personnel and material resources.

c. Improved patient satisfaction.

d. Standardization of procedures.

e. Increased patient through-put without loss of quality of care.

f. Ability to collect more meaningful and complete workload data for staffing purposes.

7. SUBSYSTEM INTERFACES

There are major interfaces in the Clinics Subsystem to the Patient Administration System, the Pharmacy System, the Radiology System, the Clinical Laboratory System, and the Patient Appointments and Scheduling System.

There are also minor interfaces to the Wards Subsystem and the Food Service System.

8. AMENABILITY TO ADP SUPPORT

These processes, as charted, represent only procedures and are, as such, technology-independent. It is now foreseen that most, if not all, of these processes will be automated in the future. However, each of them can be adapted to a completely manual health care system, as well as any manual/automated combination, simply by following the charts.

FILES, RECORDS, AND FORMS

The following are descriptions of files, records, and forms used in the Clinics Subsystem and referenced throughout the flowcharts:

1. Admission Forms. A variety of hard-copy forms used by PAD to collect identification and demographic data from patients during the formal process of admission.

2. Application for Treatment. Form used to apply for treatment and obligate patient for payment when patient is not eligible for treatment but is found to be or feels himself to be emergent.

3. Appointed Patient Record Pull List. List generated by PAS and sent to the record roon in advance of the appointment day. Lists appointment day, patient's names, and clinics to which appointed. Used to pull records and transport to appropriate clinics in advance of appointment time.

4. Appointment Slip. A piece of paper containing patient identification data and a date and time of appointment at a particular clinic or for a particular process. Generally filled in by the person--physician, clerk, or patient--calling Central Appointments, and not by an appointment clerk.

5. Care Provider (CP) Daily Record File. Location, possibly a box in or near the office, where the patient records for a CP's clinic encounters for a particular day are placed prior to the beginning of business.

6. Care Provider Review In-box. A location, generally some sort of box or other document holder in the physician's office, where results from any ordered tests are placed for his review prior to the next patient encounter.

7. Care Provider Review Out-box. Location where physician places reviewed test results. After review, test results are sent to the record rooms and placed in the patient record or in a file for withdrawal at the time of the patient's next encounter.

8. Certificate of Nonavailability. A document, issued by PAD, which indicates that needed care or service is not available at the issuing Medical Treatment Faclity (MTF). Allows patient to seek needed care at a civilian facility at total or partial government expense.

9. Clinic Consult Suspense File. File maintained in the clinic to insure finalization/typing of consult notes/results for consultations performed within the clinic.

10. Clinic Daily Appointment Schedule. Form indicating clinic's schedule for a given day. A separate form is used for each physician and contains his/her schedule for a particular day.

11. Clinic Follow-up Suspense File. Card file maintained in the clinic containing patient identification and problem data. Checked regularly to insure the provision of needed follow-up care in the required period of time following creation of the card.

12. Clinic Information File. General file maintained in clinic with various types of pertinent data filed by category. Examples of categories might be workload data files.

13. Clinic Loose Elements File. File used to temporarily hold all lab, consult, and other results which have been returned to the clinic until a physician is able to review them prior to placement in a patient's record.

14. Clinic Missing Record List. A list of patient names sent by a clinic to the record room indicating appointed patients whose records have not yet arrived at the clinic. This list is sent to PAD some time prior to the patient's scheduled arrival.

15. Clinic Order Suspense List. File maintained in the clinic as a double-check against CP orders. File is checked regularly to insure that either all orders have been carried out or that proper follow-up action is initiated.

16. Clinic Patient Record File. File which holds patient records of clinic patients. This is a temporary storage and is used only for records needed for appointments or follow-up within three days.

17. Clinic Record Finalization Suspense File. Clinic file whose records indicate a need for finalization of a patient's record as it pertains to a particular resolved problem. Finalization includes a narrative summary of diagnosis and care, placement of the problem on the inactive list, and return of the record to the record room.

18. Consult Form. Form used to request consultation by a specialist with a particular patient.

19. Data Collection Form. Any form used to collect data of a demographic or statistical nature. The term does not imply that any form is currently in existence. Form must be created to fit the collection requirement.

20. Encounter Form. Form used to list patient problems, care plan (including medications and tests ordered), and CP notes. One such form is used for each patient arrival in the clinic.

21. Inactive Problem List. List of past patient problems which have been resolved and are not of a chronic nature. Kept in the patient record.

22. Obligation Form. Form used by patient claiming eligibility for treatment who is not able to prove eligibility at time of need. Signature of form obligates patient to pay for care if eligibility cannot subsequently be demonstrated.

23. Patient Record. Folder containing all available information pertaining to a patient's current and past medical condition. Total record includes medical and radiology components.

24. Pre-admission Forms. Generally the same as admission forms, except for the time when they are prepared. Pre-admission is generally done at the time of recognition of the need to admit an elective patient at some future time.

25. Record Request. Form used by health care activities in the MTF to request retrieval and transport of particular patient records from the record room. Used mainly in cases where patient arrives for care/admission without a prior appointment.

26. Registration Forms. Used by PAD to collect identification and demographic data on all inpatients (or inpatient candidates). Also contains data relative to location of outpatient records, status of MTRC, patient's primary MTF, etc.

27. Triage Form. Sheet used by clinic triager to note patient complaint, condition, treatment plan, and disposition.

Dental Files, Records, and Forms

1. Consolidated Inventory Worksheet. Sheet used to consolidate tray requriements for ordering/tray preparation purposes (see tray inventory worksheet).

2. Duplicate Record. Record created during annual records retirement cycle when special treatment category patient's records become due for retirement. Original record is retired, duplicate copy with X-rays is maintained in the clinic.

3. History Hold File. File used to collect historical data of possible future worth in research, statistical studies, etc.

4. Patient Dental Record. Part of the patient record, although maintained separately within the dental clinic. Contains all data pertaining to the patient's current and past dental history.

5. Patient Work Trace Card. Card used to maintain status of work progress for prosthetic devices being constructed. Is an audit trail to facilitate location of the device should it become delayed in production.

6. Record Chargeout Card. Sheet inserted in a record slot when the record it replaces is pulled for use, epecially outside the record storage area. Contains identification data and location of record.

7. Signature Card. Card filed in the dental clinic and signed by patients who remove their records from the MTF, especially for permanent removals. Record sign-outs for use within the MTF are accomplished on the record chargeout card.

8. Statistic Notes. Data collected during statistical analyses of dental records.

9. Suspense Alpha File. File used to hold, on a short term basis, all loose lab, consult, and other results which are returned to the dental clinic and for which no record is immediately available. Items are filed alphabetically by patient name.

10. Tray Inventory Worksheet. Sheet used during dental pre-appointment activities to tally instrument and supply needs for next day's appointments.

11. Tray Order Worksheet. Sheet used by dental clinic personnel to establish final tray needs. Based on consolidated tray inventory worksheet and available tray supplies, the tray order worksheet is used by the clinic log tech to order trays from central materiel supply.

12. X-ray. Generally, a radiological picture of a portion of the human body. Here associated primarily with dental-related physiology.

13. X-ray Order. An order signed by a dental CP requesting that dental X-rays of the indicated patient be taken.

14. Work-in-Progress File. File containing Patient Work Tracer Cards.

DEFINITIONS OF ABBREVIATIONS AND TERMS

The following are definitions of abbreviations and terms found throughout the Clinics flowcharts:

A&D - Admissions and Dispositions. Generally used to refer to the office within the medical treatment facility (MTF) which is responsible for patient admissions and discharges, and their related administration.

Admission. The process of placing an individual under treatment or observation as an inpatient in an MTF and assuming medical responsibility for an individual who is either hospitalized in a non-federal hospital or VA hospital, or placed "on quarters."

Admitting Physician. The physician with designated admitting privileges who arranges for the admission, pre-admission, or transfer of the patient to the hospital.

Care Provider (CP). An individual who delivers services of a clinical nature directly to the patient--may be a physician, nurse, clinical dietitian, chaplain, LPN (Licensed Practical Nurse), etc. Does not include persons acting in administrative support roles, (e.g., unit manager). Does not identify level of profession.

Clinic. A health treatment facility primarily intended, and appropriately staffed and equipped, to provide emergency treatment and outpatient services. A clinic is also intended to perform certain preventive medicine activities related to the health of the personnel served, such as physical examinations and immunizations. A clinic may be equipped with beds for observation of patients awaiting transfer to a hospital, or for short-term observation of patients following some kind of treatment.

Clinic/CP Schedule. Generally, an array of times in which the CP is in the clinic showing his specific availability, by time, for patient encounters of various types. Clinics and CP's, in the PAS subsystem, are said to have "schedules" in which various patient appointments can occur. In a more restricted sense, "schedule" refers to a printed or displayed schedule (as defined above) which indicates at a glance the types and availabilities of the appointment slots comprising it, but does not indicate which patients have been appointed to the filled slots. The term "scheduling" as used in PAS, refers primarily to the bookkeeping of each CP's schedule and availability.

Clinical Summary. A defined set of data elements providing a concise outline of the patient's problems and treatment of same. Other

terms which have been used are "mini-record" and "minimal patient data base." The elements of the Clinical Summary are:

	Differences*	
	Ward	Clinic
Patient Identification (PTID)		
Age, Sex, Religion, Race		
Rank-Category		
*Patient Location	Ward, Room, Bed	Tel No., Address (Home, Work)
*Primary Physician	Ward Physician	Physician, Location
*Primary Nurse	Ward Nurse	Nurse Clinician, Location (if applicable)
Problem Lists		
Current Medications		
Reactive Agents, Adverse Reactions		
Medical Alert Message		
Special Instructions		
Height-Weight/Date		
Blood Type		
Surgical History		
Obstetrical History		
Test Results Profile		
Last Contact(s) with System		
Clinical Flow Sheet		

Consultation. The process of requesting a specialist's opinion regarding a patient's problem.

Disposition. The termination of an individual's admission to an MTF (See definition of Admission). Can also refer to the completion of all or some major part of a treatment plan for a clinic patient.

Logistics Technician (Log Tech). An individual assigned to a specific area of coverage (one or more nursing units or clinics) who is directly responsible for maintaining supply stockage levels for the unit, for stocking nurse servers as required, and for obtaining non-standard supplies and equipment at the request of the CP.

MEB (Medical Evaluation Board). A medical committee used to assist in determining the medical fitness of an active duty Service member. The MEB members are appointed by the MTF commander to consider each individual case where Board action is required by regulation, as well as any cases where Board action is necessary due to the problematical or controversial nature of an individual's condition.

Medical Outprocessing Clerk. A person skilled in the analysis and transcription of medical records. This person generally is responsible for review and update of a patient's record after a patient encounter in a clinic.

MRT (Medical Record Technician). A person skilled in the analysis and transcription of medical records. The MRT is responsible for the clinical record while it is on the ward.

MTF (Medical Treatment Facility). Any physical complex wherein professional health care is rendered, either on an inpatient and/or an outpatient basis.

MTRC/MITRC (Medical Treatment Recording Card/Medical Inpatient Treatment Recording Card). These are standard credit-card-size cards--plastic, embossed, and machine-readable--which contain patient identifying information.

Order - A formal request for a service. Patient orders may be classified as to:

1) ORIGIN:

Primary - An order whose execution is not specified to be conditional to the execution of another order.

Secondary - An order whose execution is specified to be conditional to the execution of another order.

2) PRIORITY:

STAT - (Abbrev of Latin STATIM meaning immediately). An order whose execution is time-critical and which may invoke a special mode of execution.

Routine - An order which is executed through normal procedures.

3) STATUS:

Current - An order which is in effect.

Outstanding - An order whose execution is in process (for which no result has been received).

Suspense - An order for which a file entry is created upon order entry and not deleted until a specified event occurs.

Old - An order whose execution has been completed (and confirmed if a suspense order) or cancelled.

Delinquent - An order whose execution step(s) has(have) not been confirmed within a pre-defined period of time after the ordered time.

4) TYPE:

A (traditional) classification for orders to identify to which activity and/or service the order is directed, e.g., laboratory order, diet order, etc.

Ordering. The process of requesting an action to be performed.

PAD (Patient Administration). The function of PAD is to provide patient administrative services for the hospital and to act as custodian of all medical and clinical records of inpatients and outpatients. This includes: administratively admitting and discharging patients, and receiving, reviewing, maintaining, storing, and disposition of medical records.

PAS (Patient Appointments and Scheduling Subsystem). The subsystem of the Health Care Delivery System which supports patient appointments, clinic/CP schedules, dental, and operating room scheduling. This system is ADP-supported and has no specific geographic bounds, being composed of a centralized telephonic appointment service as well as decentralized appointment sites, such as clinic outprocessing areas.

PTID (Patient Identification). The data necessary to provide unique patient identification and the common linkage between the various automated and manual data files forming the basis for an integrated patient data base system. It consists of patient's name, sponsor's Social Security Number, patient's family member prefix, and patient's date of birth.

Pre-admission. Collecting appropriate admission data before admission actually occurs. Performed for elective cases where immediate hospitalization is not required, it is identical to Admission except that hard-copy admission documentation is maintained in a suspense file until actual admission.

Problem-oriented Medical Record. A medical record which includes a problem list and in which the CP's notes are organized according to the listed problems. A problem is any condition which may adversely affect or reflect the patient's health. Problems may be: 1) diagnoses, 2) physiologic findings, 3) symptoms or physical findings, 4) abnormal laboratory findings, 5) health maintenance, and 6) psychosocial conditions relevant to one of the preceding categories.

Requisition/Request Form - An order document. For example, laboratory test requisitions have the following elements:

1) PTID

2) Test specification - usually only one test or several closely related tests (e.g., blood hematology tests) can be ordered per requisition. Hence, requisitions are usually test specific.

3) Source of specimen (e.g., blood, urine), if not implied by 2.

4) Date and time of specimen collection.

5) Ordering clinic or ward.

6) Ordering CP.

7) Date of order.

8) Frequently, additional test specific data needed for interpretation (e.g., age, sex).

9) Space for result reporting.

As the above implies, a requisition can serve not only to communicate an order but also to report results.

SI (Seriously Ill). When a patient's illness is of such severity that there is cause for immediate concern although there is no imminent danger to life.

Standard Order Set. A defined set of orders which are frequently entered simultaneously, but with only minor variations, and which have therefore been grouped together for convenience of entry. Examples of this grouping are:

1) Admission orders (e.g., obstetrical, coronary care, etc.).

2) Procedure-related orders (e.g., pre-operative, post-operative), with breakdowns by procedure categories.

Test Results Profile. A defined set of laboratory, X-ray, and EKG (electrocardiogram) reports providing a concise summary of the patient's test results data base. The set may be defined by any or all of the following mechanisms:

1) The most current results for a defined set of tests, (e.g., complete blood count, urinalysis, SMA 12, chest X-ray, EKG).

2) Results from previous encounters with the option of obtaining only the most recent results.

3) Results of tests uniquely specified for a patient.

One use of the Test Results Profile is in the Clinical Summary.

Unit Administrator. Individual charged with responsibility for all administrative, personnel, and logistical functions of each individual ward and clinic. In the military environment, the unit administrator is responsible basically for all non-direct patient-care functions of his unit. He is responsible for all unit equipment, hires, trains, supervises, and schedules all non-professional personnel, handles local patient administration, and participates in the overall budgetary process for funds for his unit.

Unit Dose Distribution. Drug distribution system in which each drug order is sent to the pharmacy. The pharmacy maintains a patient's medication profile. Periodically, medications are delivered to the wards in a cart (or in cassettes which are made to fit into a cart). Each drawer in the cart will contain medication for one patient. The pharmacy places enough medication in each patient drawer to meet the requirements for active orders between cart exchange times. Each medication (including injectables) is dispensed in a single well-labeled medication package which contains a single dose in ready-to-administer form.

Unit Medical Clerk. A trained person located on the ward/clinic/ancillary service who is responsible for all intra-hospital commnications to and from that unit.

VSI (Very Seriously Ill). When a patient's illness is of such severity that his life is in imminent danger.

Walk-in Patient. Any non-appointed patient who presents himself for care at the MTF.

- - -

SPECIFIC FLOWCHART COMMENTARY

Explanation of possible ambiguities or areas of misunderstanding within the Clinics Subsystem flowcharts are listed below by process:

a. Clinic Patient Encounter

This sheet is simply an overview of the entire clinic operation and depicts the general flow of outpatient treatment processes, except for the "Emergency Process."

The Emergency Process, also mentioned elsewhere in the Clinics flowcharts, is difficult to define and chart since different patient emergencies signal different treatment methods. Thus, Emergency Process as used here generally entails only a concerted effort on the part of the receptionist or other nearby personnel to get prompt medical care for the emergent patient, and to give supportive care as appropriate until professional care providers arrive to treat the condition.

b. Clinic Reception Process

The Emergency Process is explained in paragraph a, above.

The block "Patient Telephones for Clinic Appointment" deserves some explanation. Much effort has been expended in the Clinics modeling effort at WRAMC to reduce walk-in patients. The process has been largely a matter of patient education and the instilling of patient trust in a central appointment scheduling system which could be reasonably responsive to their needs. The block mentioned above allows patients to be appointed via interaciton with the Clinic receptionist, even though such action is to be officially discouraged whenever possible. Thus, Clinics who wish to maintain some control over their appointment schedules are able to do so, and the patient who calls the hospital from a long distance needn't place additional calls to obtain an appointment.

By the same token, the walk-in patient who wishes to return later the same day for his encounter (bottom center of Sheet 1/3) can be added locally to the schedule, as PAS central appointment processing is completed before the current day's operations in the Clinic.

Record management in the context of Note 3.2 at the bottom of Sheet 3/3 implies control of the record, accurate tracing of its location at all times, prompt filing of test results and other pertinent papers, and appropriate disposition of the record when the record no longer needs to remain within the clinic.

c. Clinic Appointed Patient Check

The circle entitled "Notify Provider (If Possible)" at the left bottom of the sheet implies an informal conference with the care provider to notify him/her of the patient's presence in the clinic in case the provider desires to become involved in correction of the scheduling conflict. At this point, he/she may well decide to treat the patient as a walk-in, adjust his own schedule to accommodate the patient as soon as possible, or ask for reappointment of the patient at some later time or date.

d. Record Exit Process

At the point where "Record Not Required No Other Appointments" connects to "Record To Be Held (Temporarily) in Clinic", it must be remembered that the record must be finalized before it is sent back to the record room. Thus, the temporary storage in the clinic files at that point.

e. Clinic Triage Process

The triage algorithm referenced on this sheet is a comprehensive set of decision tables developed by physicians for use by paramedical personnel. Given certain patient symptoms, the tables assist the triager in determining a tentative assessment of the problem and dictate certain treatment or diagnostic procedures to be followed once that determination has been made.

f. Clinic Admission Process

The ward/team mentioned in a number of places on sheet 2/5 does not imply that A&D assigns physician/nursing teams to specific patients. A&D is tasked to keep a running account of physicians and nursing teams who are available for assignment of new admissions. This information is passed to the clinic care provider to use in direct coordination with the ward officer in arranging admissions. The philosophy behind PAD's keeping of this information is that no patient will be approved for admission until an inpatient care provider (or, at least, subspecialty service) has been alerted to the new arrival, and the information is useful to the admitting care provider in making the admission as smooth as possible.

g. No Shows Process

Implicit in the care provider's attempts to contact No-Show patients, when he deems it necessary, is a further try to impress upon the patient the need for the appointment and an attempt to reappoint the patient at a time convenient for himself and appropriate for his condition. Needless to say, clinic workload and the severity of the

patient's condition will determine the amount of effort placed upon this process by the care provider.

h. Appointed Patient Record Pull List

The record room generally pulls records and delivers them to the clinic no less than one day prior to the appointment day. The PAS system generates individual record pull documents (referred to as appointment slips in this chart) which the record room uses as a basis for pulling a particular day's records. If the record is found in the record room, the pull document is used as a chargeout card and placed in the record's slot when the record is removed. In cases where records are not found, the pull document is so annotated and forwarded to the clinic as noted on the chart.

The block "Location Noted on Appointment Slip or Location Known" also includes the possibility that the record is in the clinic's own files, though presumably that fact would be noted on the appointment slip when it arrives at the clinic.

The Record Request form is used only as a last resort. When all attempts to find a "missing" record have been exhausted, the clinic sends this form to the record room. The record room creates a new record for the patient, sending it to the clinic if, as noted on the chart, it can reach the clinic in time for the patient appointment.

i. Dental Preappointment Activity

The block ordering for trays referenced on sheet 1/2 is commonly used where tray set-ups are standard for all operations. Areas such as oral hygiene, examination, etc., utilize the same type instrument set-up for all appointments. On the other hand, oral surgery or periodontics use different trays for different procedures and thus fall into the left-hand path on the flowchart.

j. Dental Facility Record Room

As dental records are rarely if ever removed from the dental clinic proper except when patients move to another geographical area and will receive care elsewhere, it follows that no concentrated attempt is made to find "missing" records as on sheet 1/6. The record should be omewhere within the facility unless it has been taken out without the proper signature, and it is assumed that "missing" records will find their way back to the files eventually. Thus, it follows that the only time a search is instituted (sheet 3/6) is when a patient is leaving and desires to remove his record from the clinic permanently.

Because of current Department of the Army patient administrative policies regarding medical records, active duty military personnel always

carry their outpatient medical and dental records with them when they move to a new assignment. Copies of these records may be made for historical purposes if necessary, but, by and large, the patients who are significantly interesting cases are not active duty military personnel. Thus, the facility wil want to keep copies of any of these records which are removed from the facility.

Current policy regarding transportation of dependent health records is as follows:

a. No inpatient records will be handcarried. Care providers at other locations who need information from these records may correspond with the Patient Administration Division of the appropriate MTF.

b. Records of minor dependents may be carried by their parents.

c. Records of non-minor dependents may be carried only by the patient unless written permission has been given by the patient to allow the military member to carry the records.

CONDITION-ACTION
DIAGRAM INTERPRETATION GUIDE

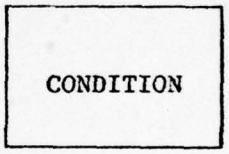
1. ACTION

When an action circle is encountered, the specified action, procedure, function, or process is to be performed as noted. An action is performed and never has a truth (true or false) value.



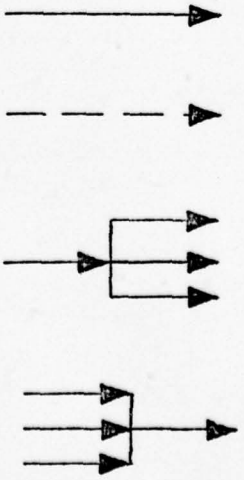
2. CONDITION

When a condition box is encountered, the specified condition is to be evaluated. If it holds true or succeeds, the following blocks on the diagram are to be executed. If the condition does not hold, then flow along this path of the diagram stops. The flow may, as appropriate, either be blocked permanently or may merely wait at the box pending the successful evaluation of the condition at some later time. A condition always has a truth (true or false) value.



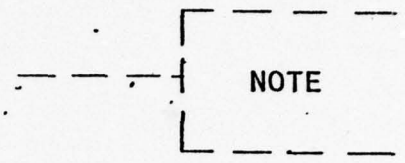
3. FLOWLINES

Flow proceeds through the diagram along the flowlines. When a flowline splits into multiple lines, all the lines must be followed (perhaps at once). If only one is intended, condition boxes will be used to select the proper line. When flowlines join or reconsolidate into a single line, that line is to be followed regardless of the number of joining lines that were active. Thus, there is no waiting at a junction. Control, execution, or interpretation of the diagram is shown by solid flowlines. Data and information are usually assumed to accompany control; but, where necessary for clarity, it is shown by "dash" lines, regardless of media.



4. NOTE

Clarifying notes, comments, remarks, and other annotations, including references to additional documentation, are enclosed in "dash" note boxes and are connected to the annotated structure by "dash" lines.



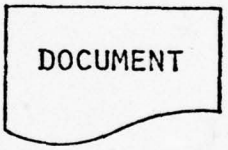
5. STORAGE

A triangular storage block indicates storage of information or data regardless of the medium of storage. Thus, only "dash" data flow lines--not solid control lines--will connect to storage blocks.



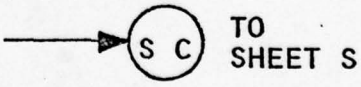
6. DOCUMENT

A document symbol represents information or data, regardless of media. (It may or may not physically reside on a a document). It is used only for clarity, as information such as that contained in the "document" is assumed to be always present along with the control flow. Like the storage symbol, only "dash" data lines may connect to a document symbol.



7. CONNECTOR

A connector circle specifies that the flow continues on another page. An out-connector contains a number (which is the sheet number at which the flow is continued) and a letter (which specifies which in-connector on that sheet is being referenced). The in-connector contains the matching number/letter code. Adjacent to the connectors is a notation as to the sheet and process to, or from, which the connectors refer.





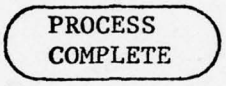
8.. PROCESS

A striped process circle indicates a process to be performed. It is analagous to a high-level or meta-action. The process referenced will be diagramed in its own set of condition-action flowcharts which are included in the same packet of flow-charts for reference. After the process is performed, flow resumes.



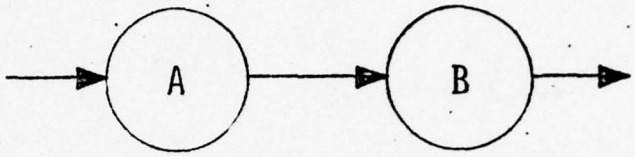
9. TERMINATOR

The oblong terminator symbol indicates that the current process or sub-process is complete. Normally, upon completion of a process, control returns to the process which invoked it and resumes where it left off in that process.

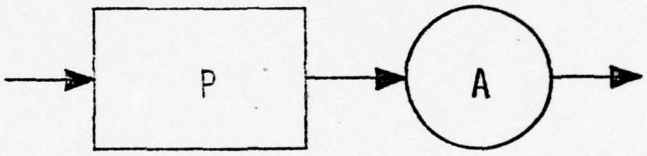


CONDITION-ACTION EXAMPLES

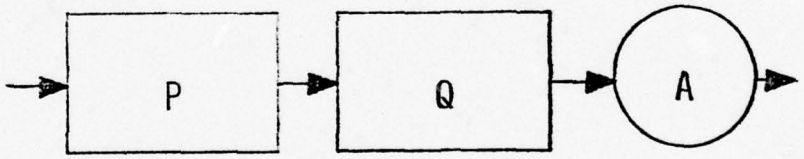
Perform Action A first, then in sequence, perform B.



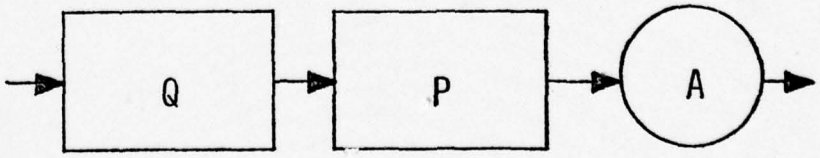
If Condition P holds true, then perform Action A. If P does not hold, do not perform A.



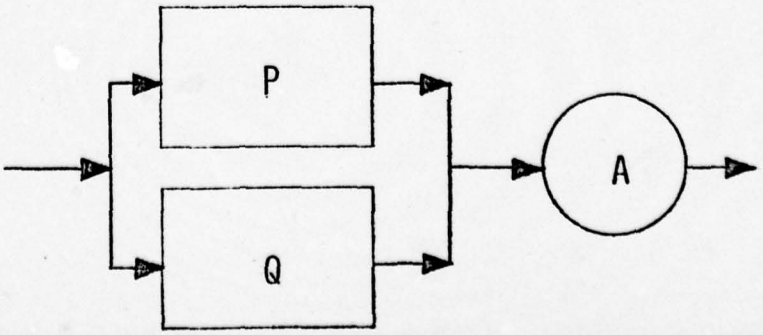
If both Condition P and Condition Q hold true, then perform A. If either one does not hold, then do not perform A.



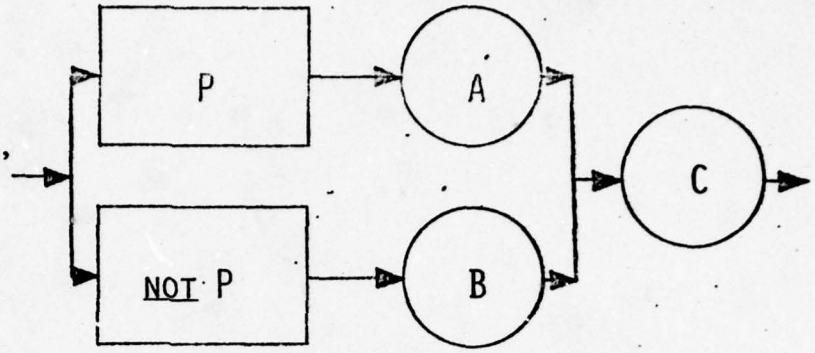
Same function and same net result as above, but evaluated in a different sequence.



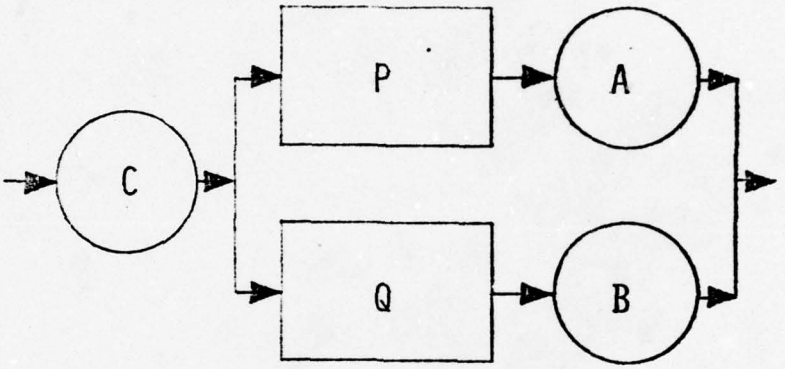
If either Condition P or Condition Q holds true (or both), then perform A. If neither holds true, then do not perform A.



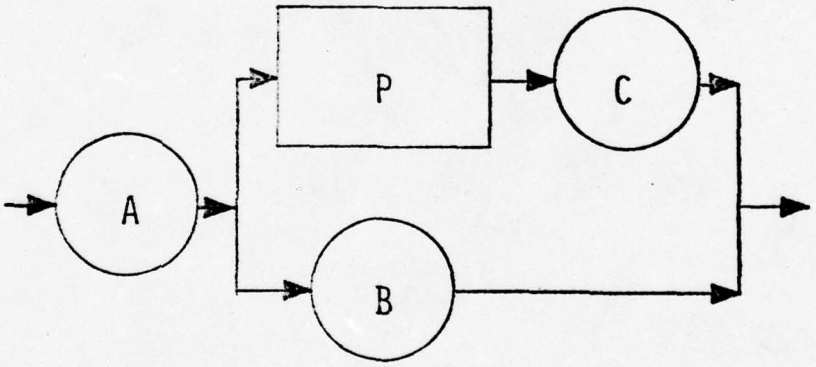
If Condition P holds true, then perform Action A, but not B. If P does not hold, then perform B, but not A. In any case, when done, perform C.



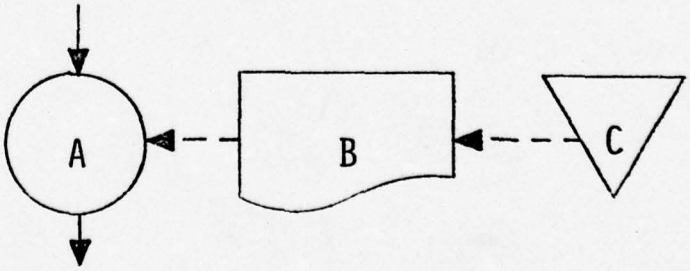
First perform Action C. Then, if Condition P holds true, perform Action A. If Condition Q holds true, then perform Action B. Note that both P and Q may hold, in which case both A and B will be performed.



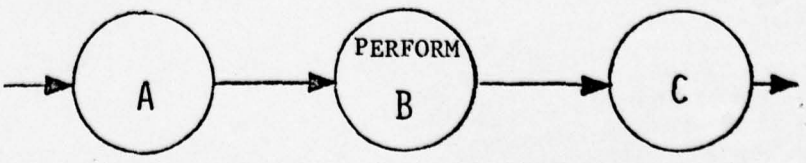
First perform Action A, then (in all case) perform Action B. Additionally, if Condition P holds true, then perform Action C (perhaps at the same time as Action B).

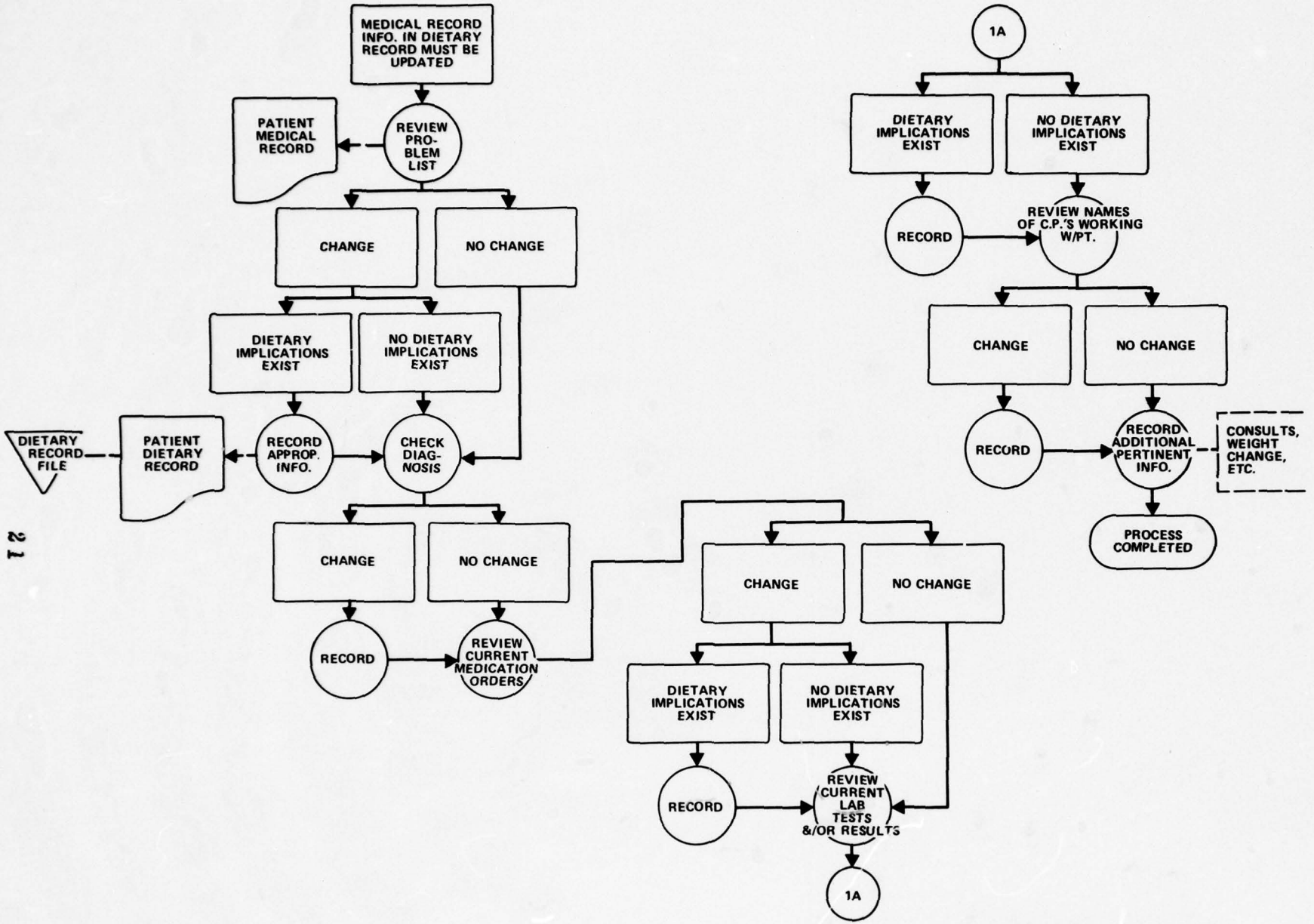


Perform Action A, utilizing information contained on the document B which was retrieved from the File C.

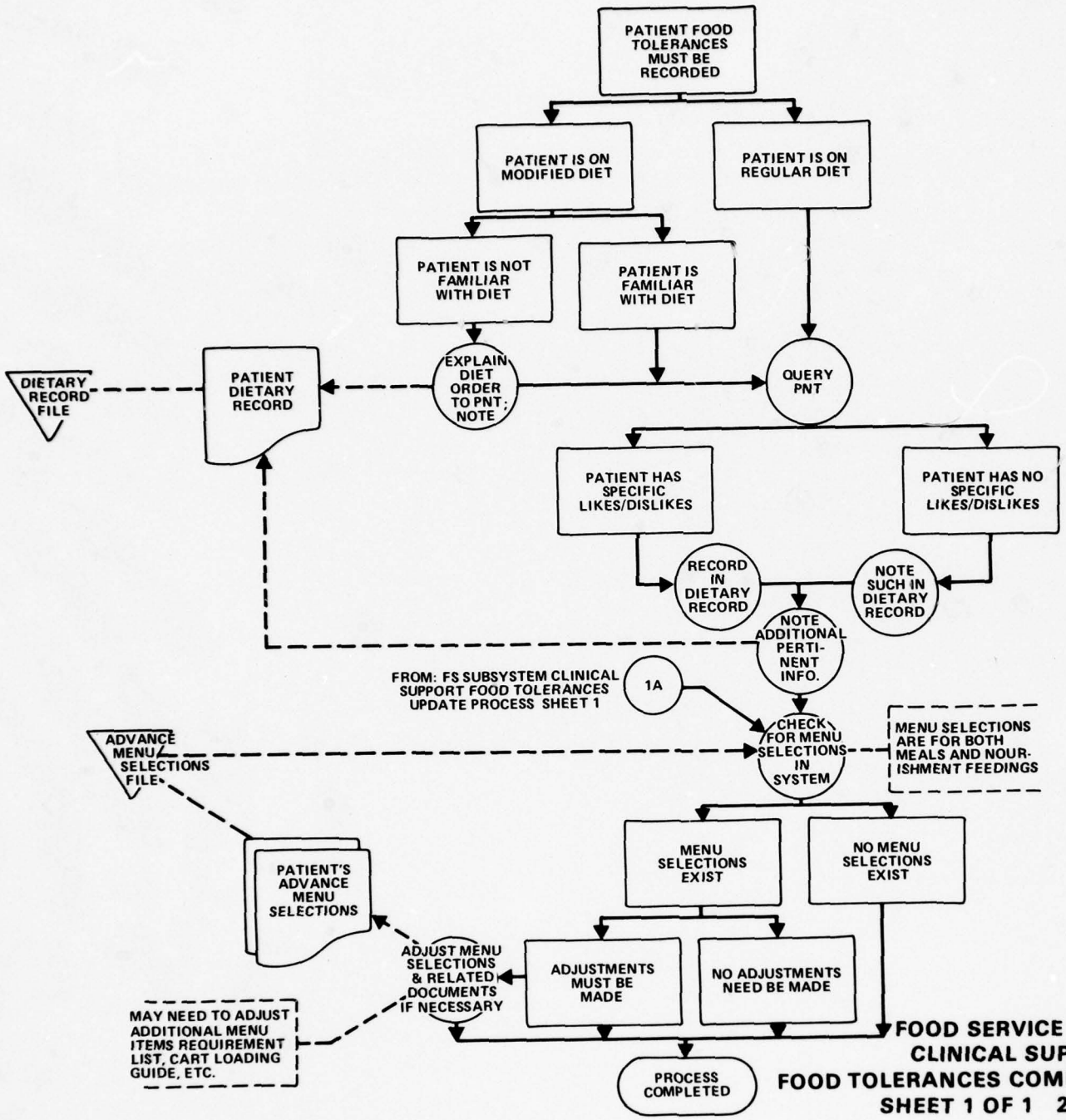


First perform Action A. Then perform Process B, which is itself flow-charted elsewhere in this set of charts. After B is completed, return to here and perform Action C.

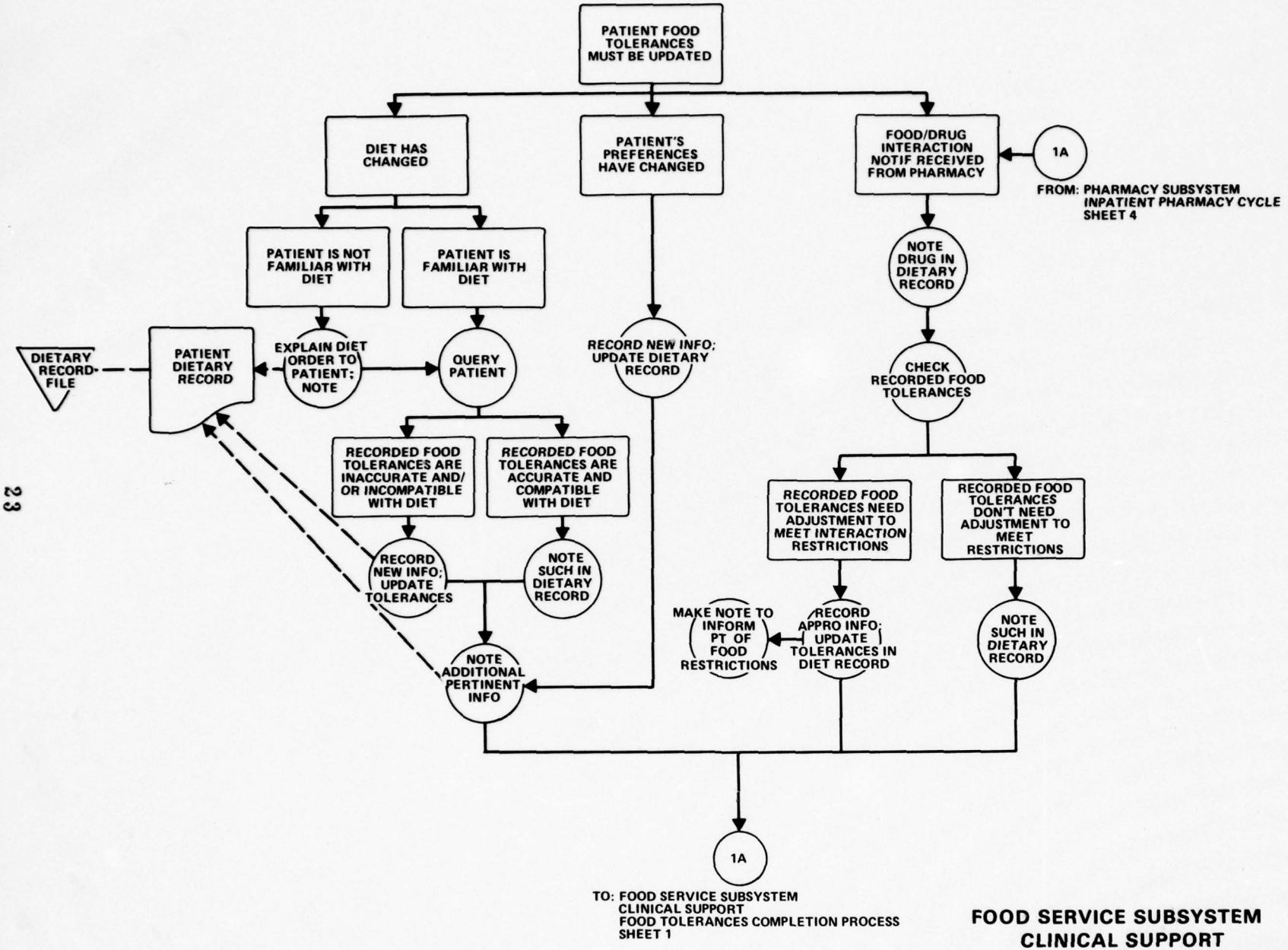




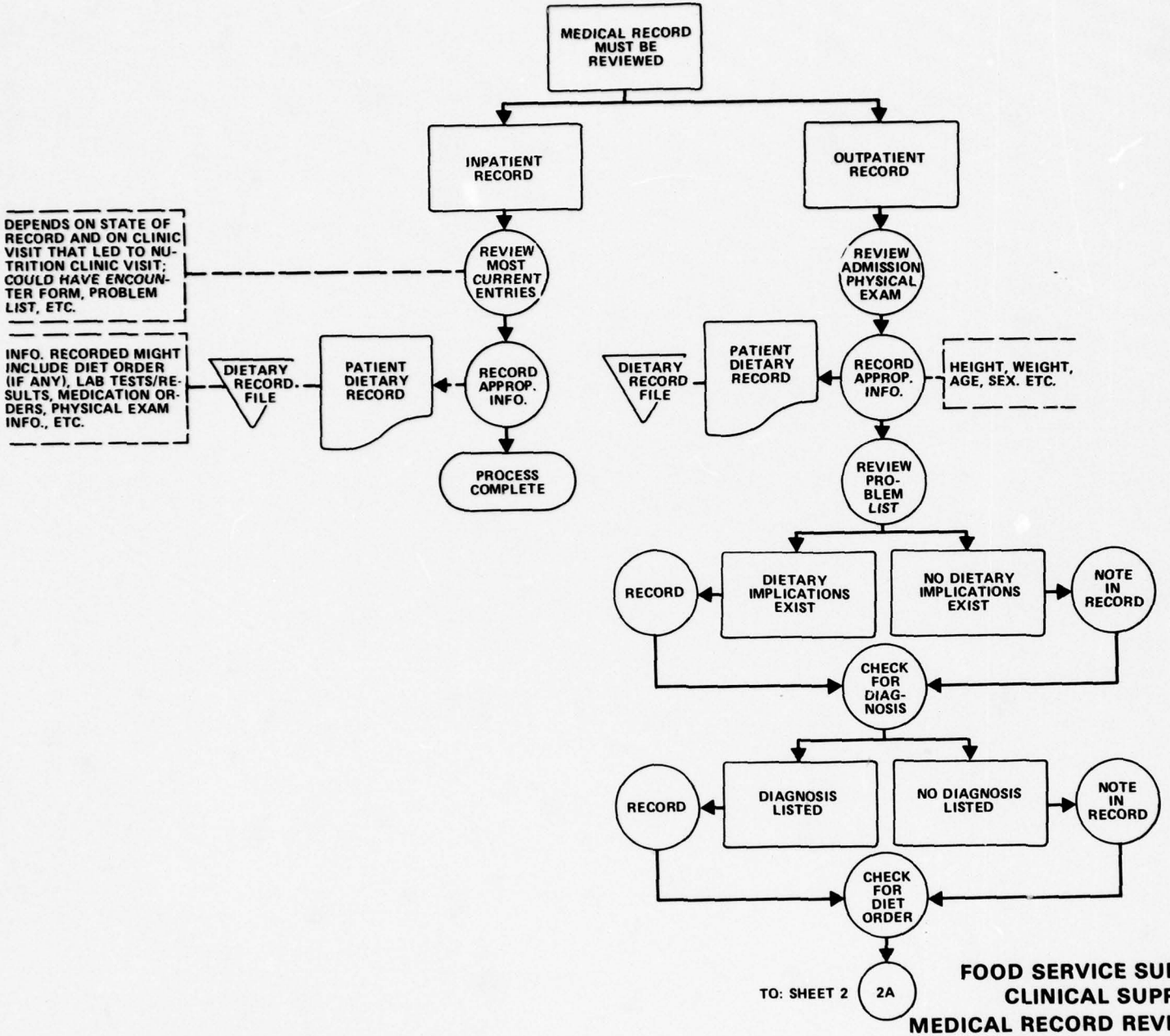
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT
MEDICAL RECORD INFORMATION UPDATE PROCESS
SHEET 1 OF 1 9 MAR 1975



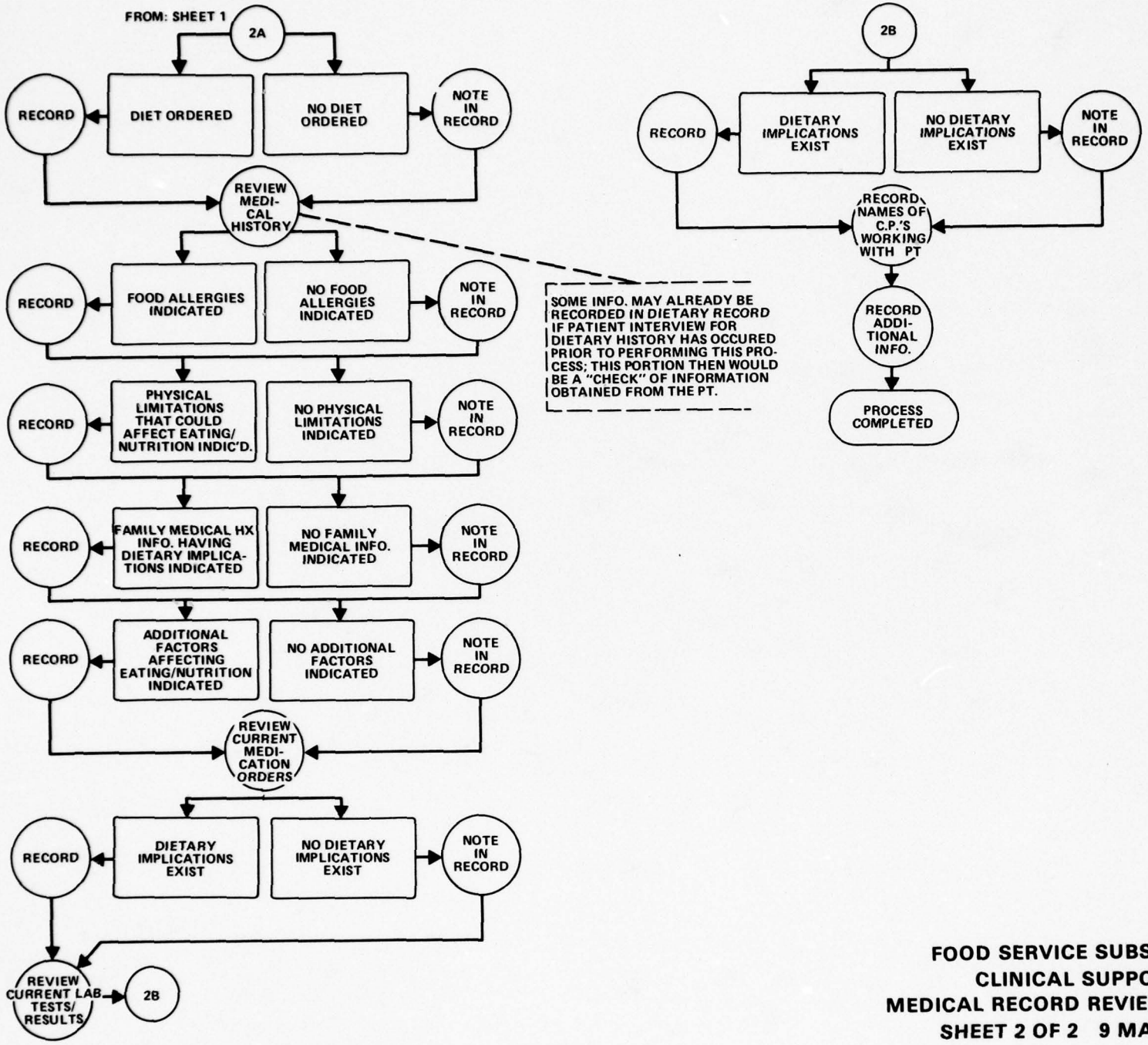
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT
FOOD TOLERANCES COMPLETION PROCESS
SHEET 1 OF 1 20 NOV 1975



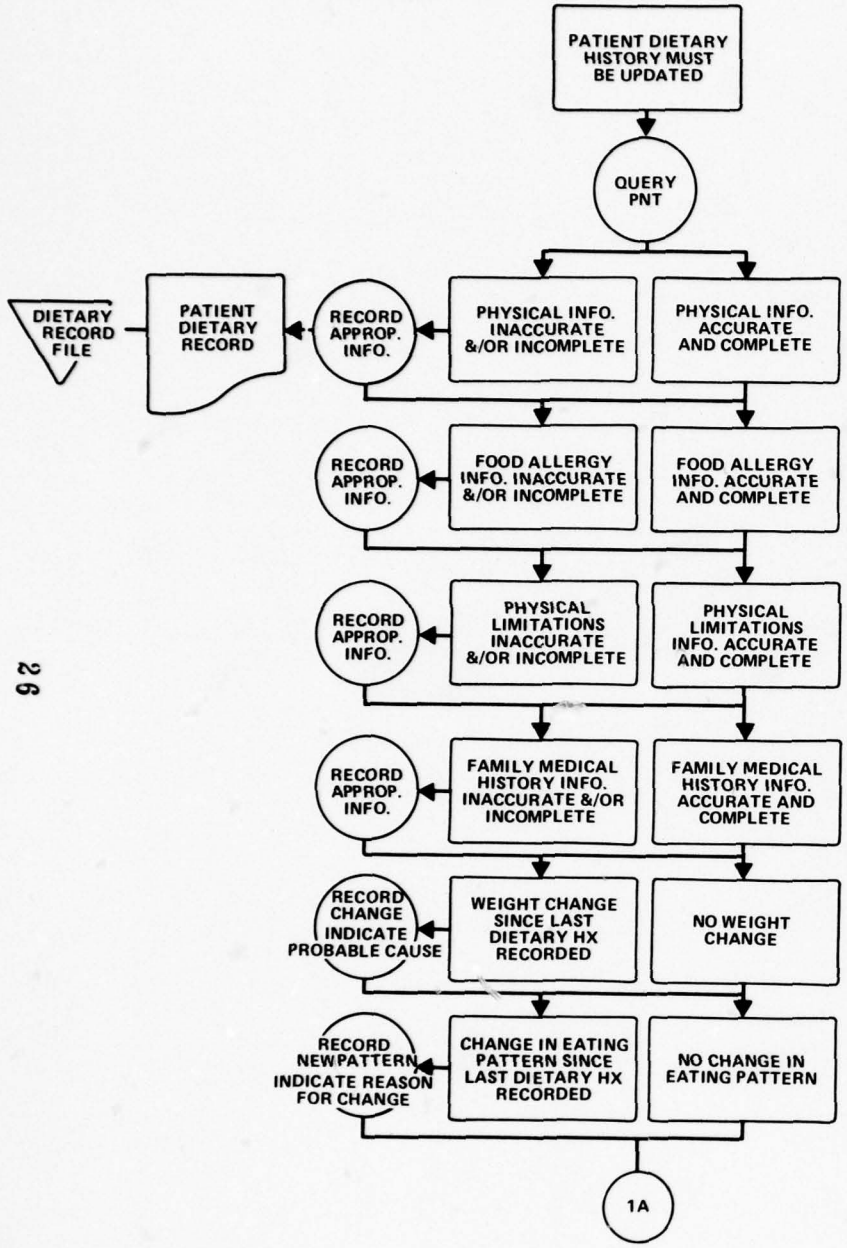
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT
FOOD TOLERANCES UPDATE PROCESS
SHEET 1 OF 1 20 NOV 1975

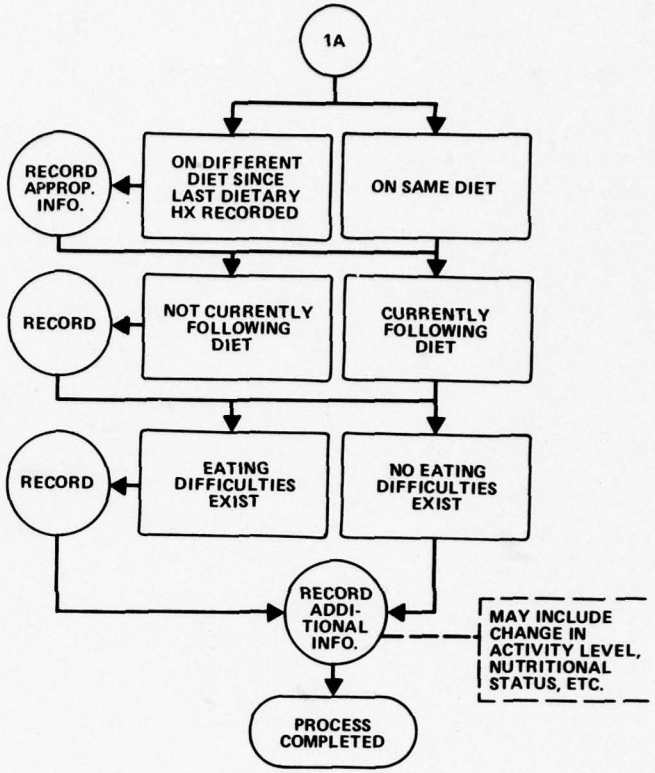


FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT
MEDICAL RECORD REVIEW PROCESS
SHEET 1 OF 2 9 MAR 1975

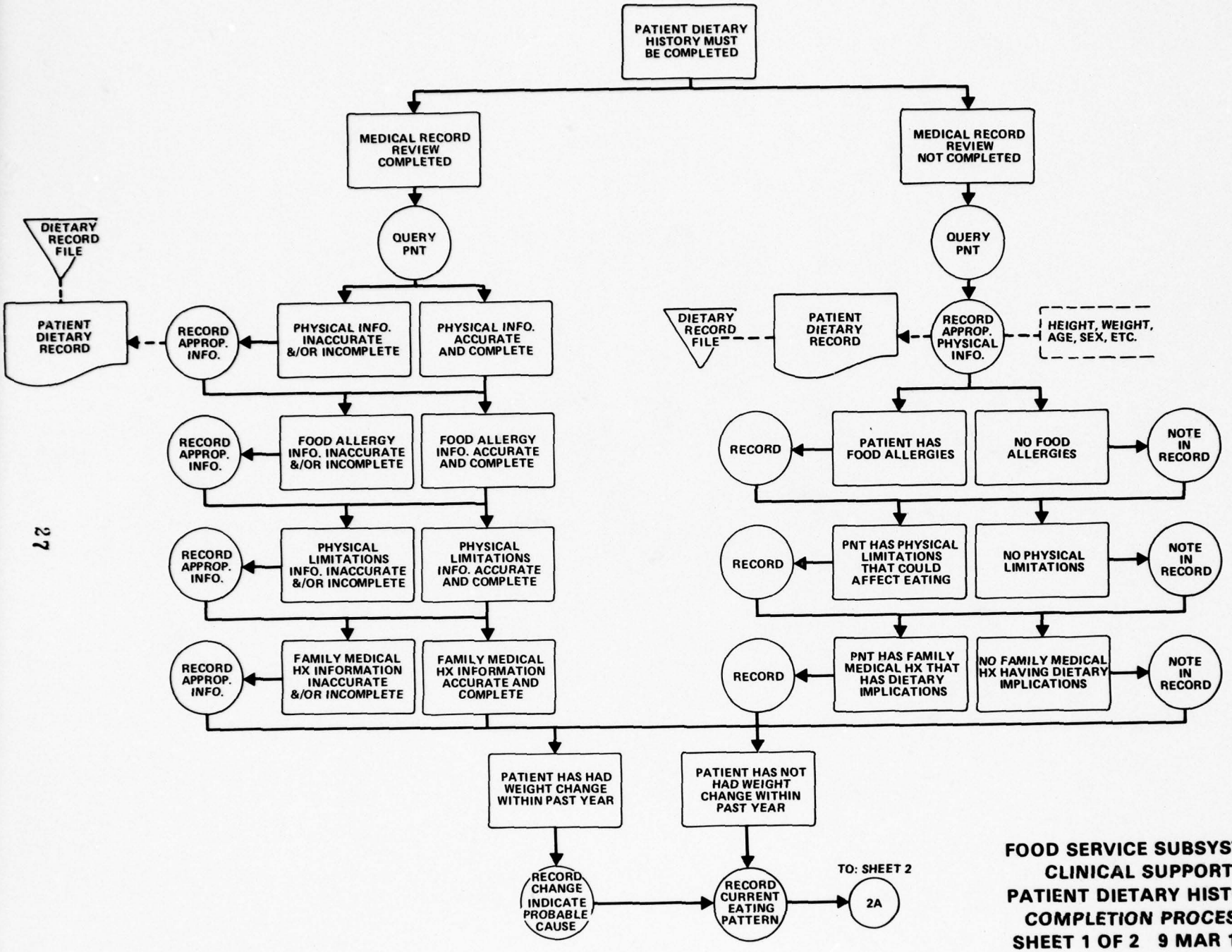


FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT
MEDICAL RECORD REVIEW PROCESS
SHEET 2 OF 2 9 MAR 1975

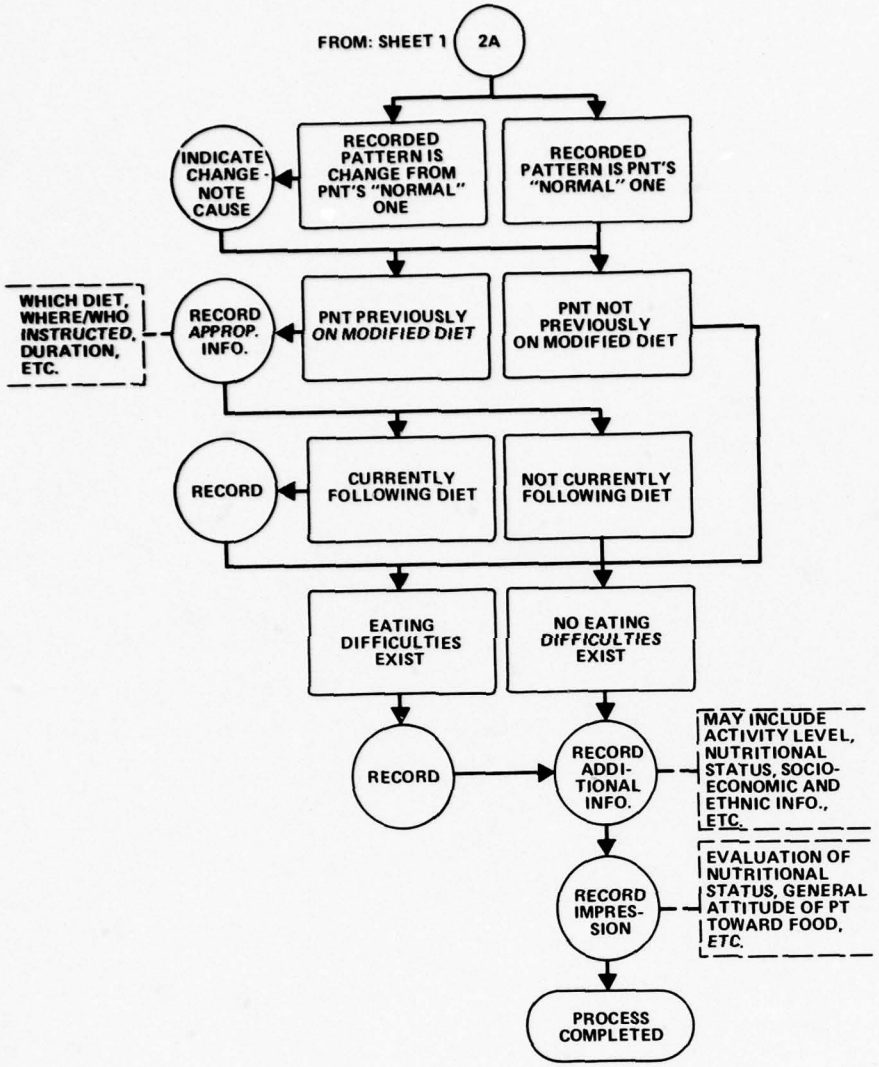




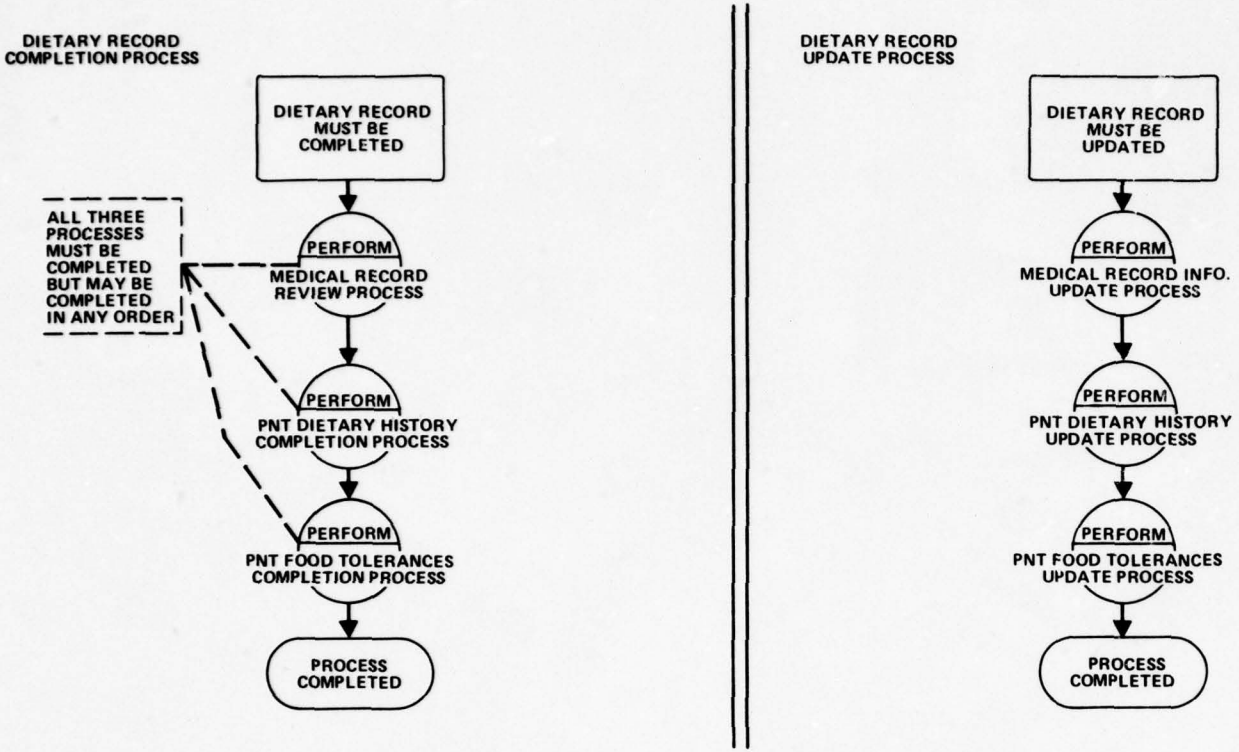
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT
PATIENT DIETARY HISTORY UPDATE PROCESS
SHEET 1 OF 1 9 MAR 1975



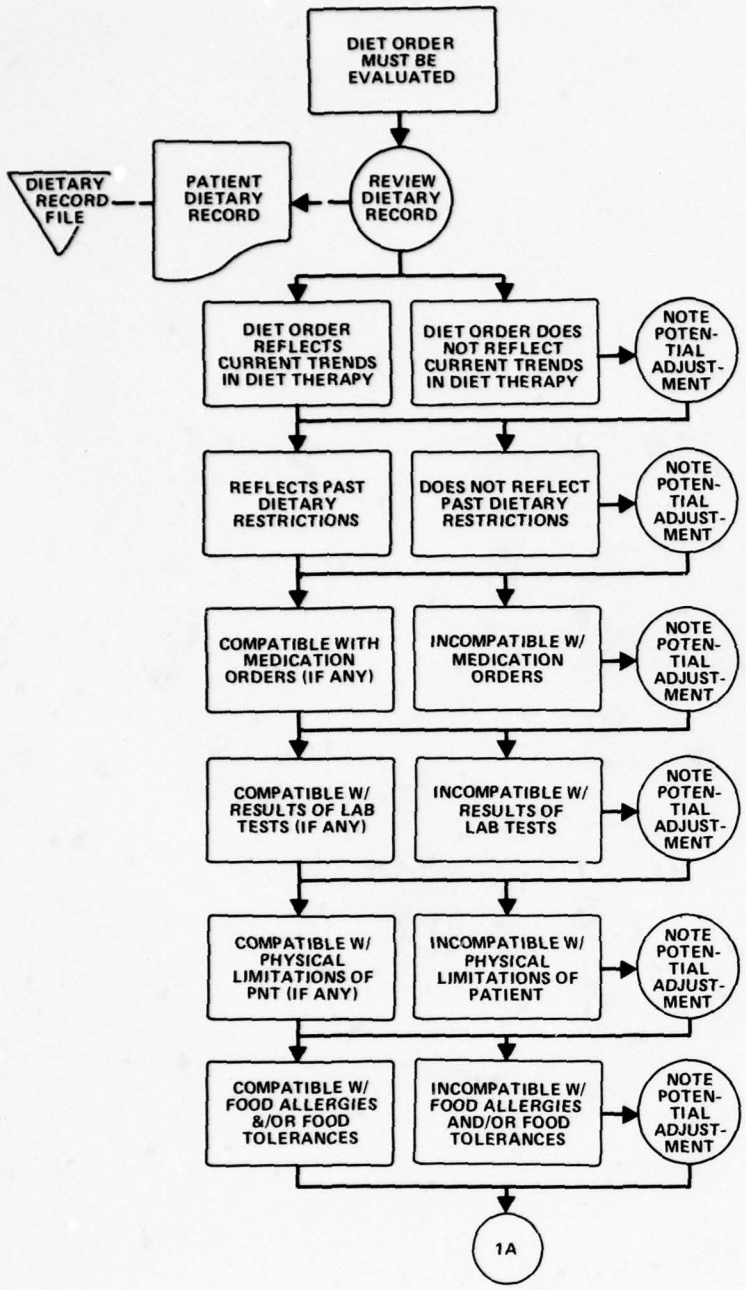
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT
PATIENT DIETARY HISTORY
COMPLETION PROCESS
SHEET 1 OF 2 9 MAR 1975

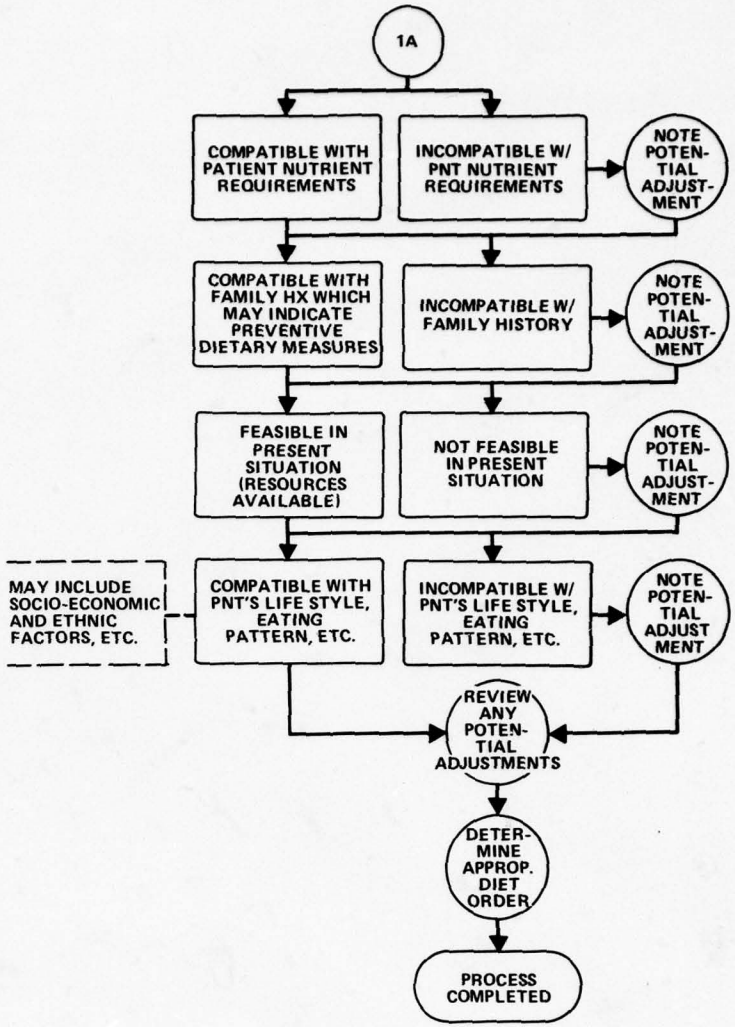


FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT
PATIENT DIETARY HISTORY COMPLETION PROCESS
SHEET 2 OF 2 9 MAR 1975

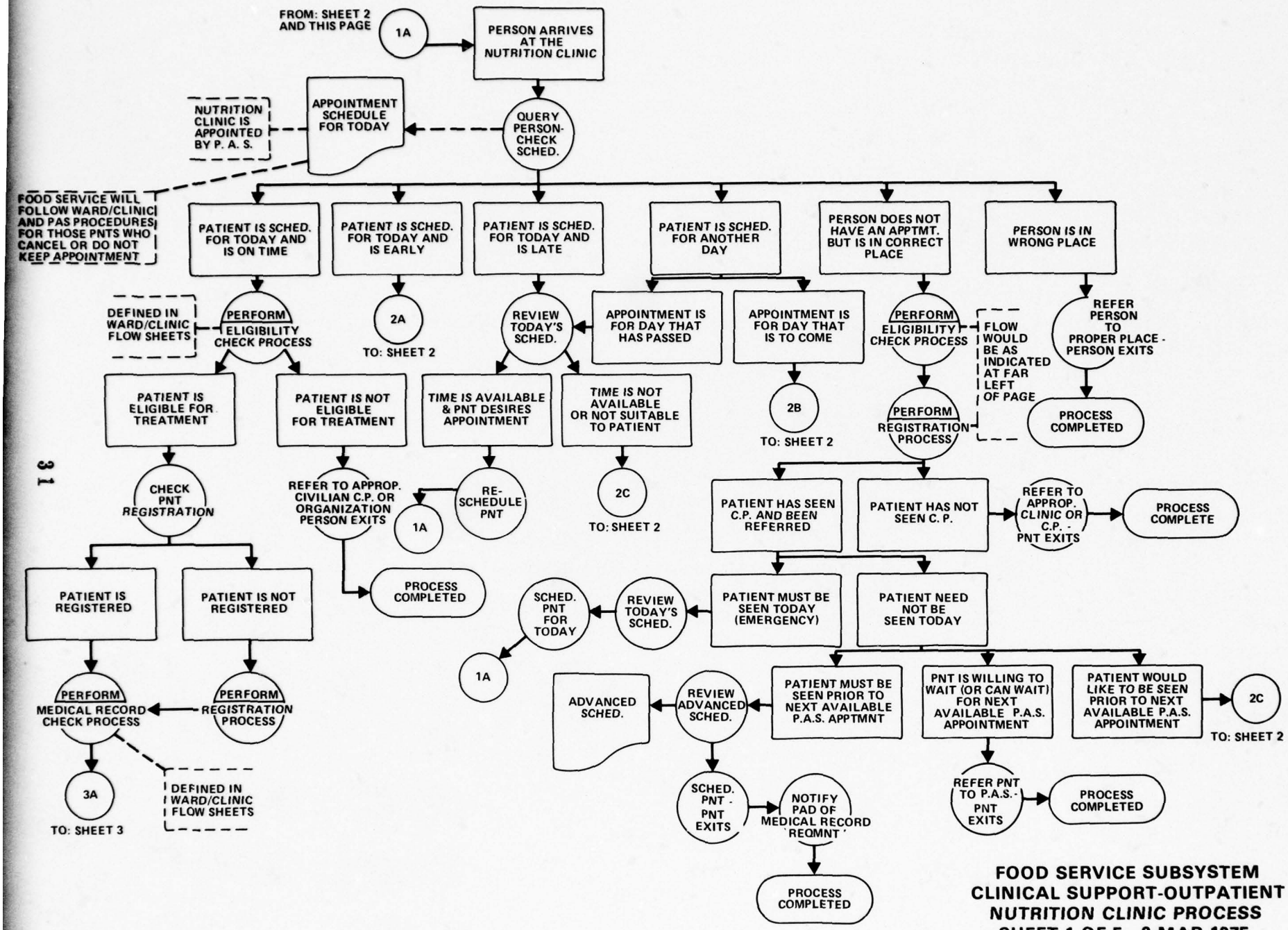


FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT
DIETARY RECORD COMPLETION PROCESS/DIETARY RECORD UPDATE PROCESS
SHEET 1 OF 1 9 MAR 1975

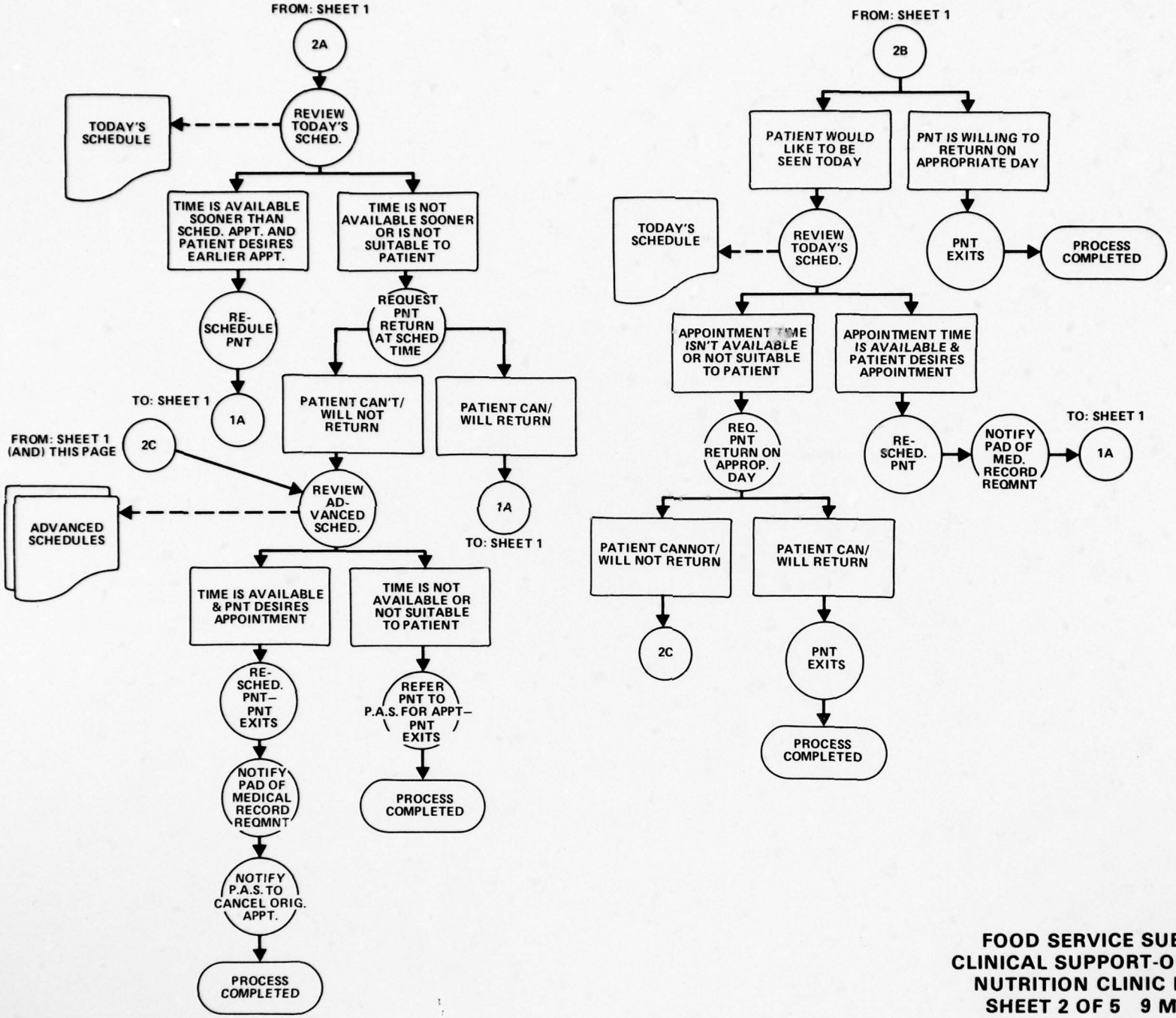




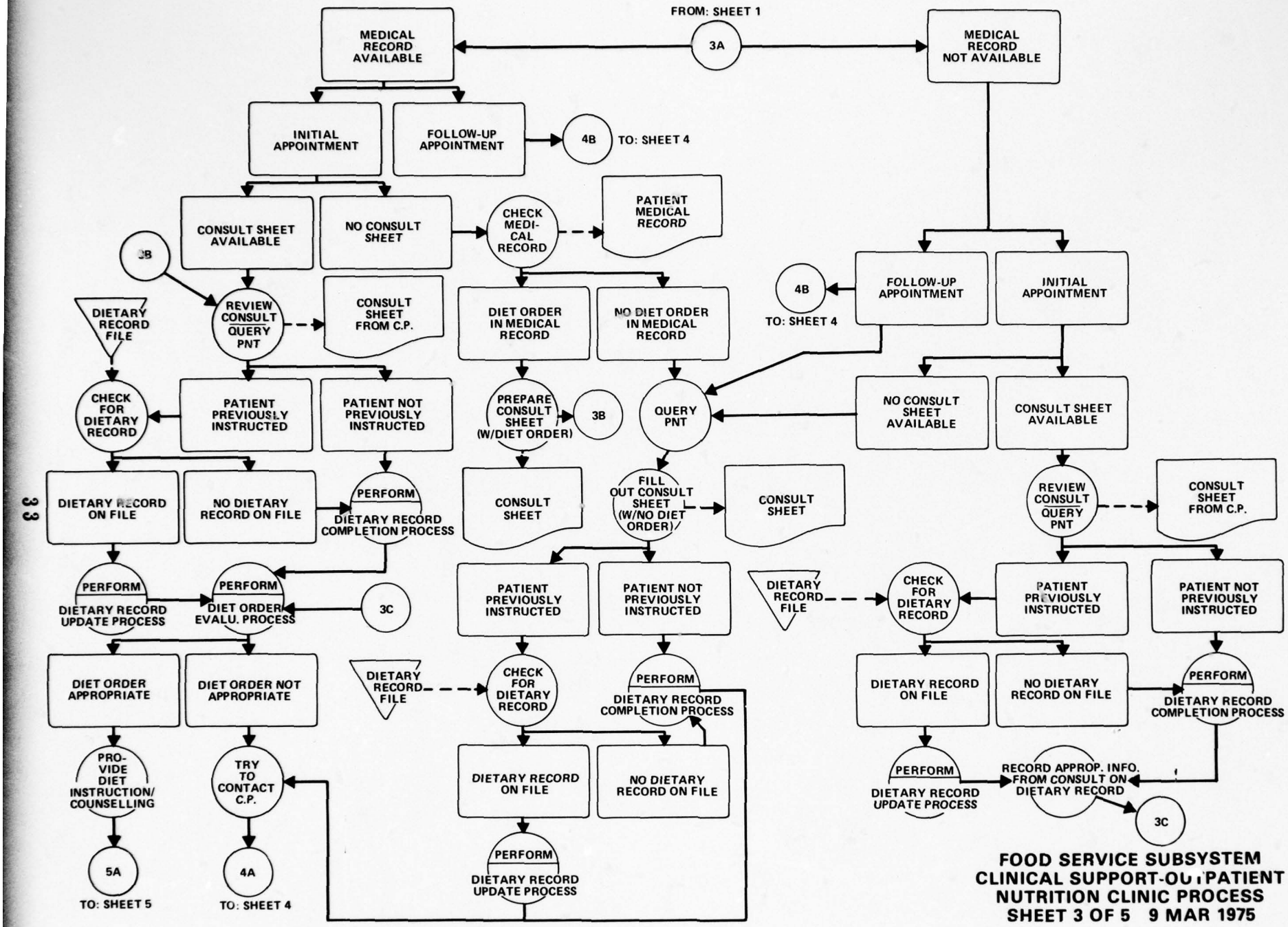
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT
DIET ORDER EVALUATION PROCESS
SHEET 1 OF 1 9 MAR 1975



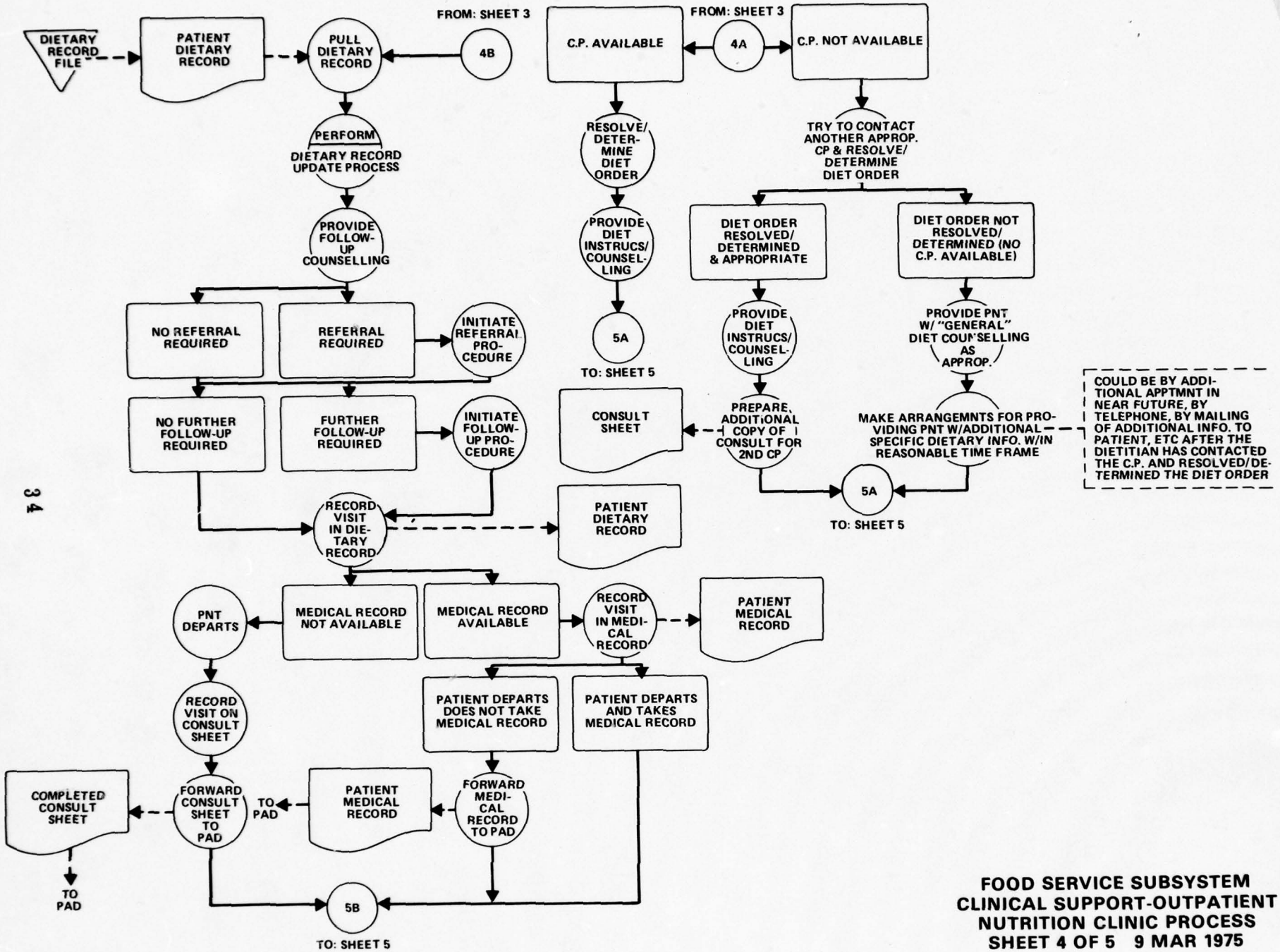
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-OUTPATIENT
NUTRITION CLINIC PROCESS
SHEET 1 OF 5 9 MAR 1975



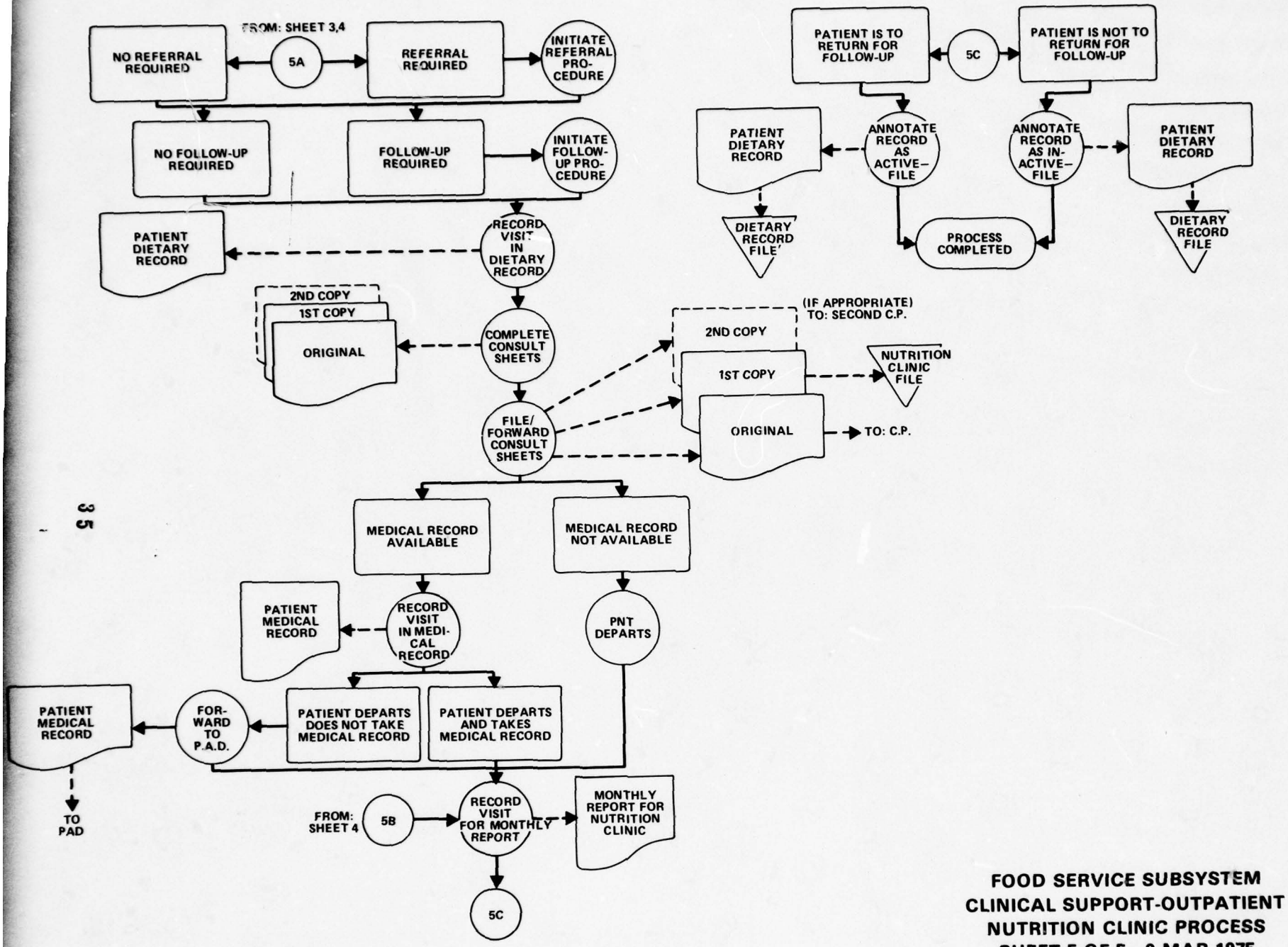
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-OUTPATIENT
NUTRITION CLINIC PROCESS
SHEET 2 OF 5 9 MAR 1975



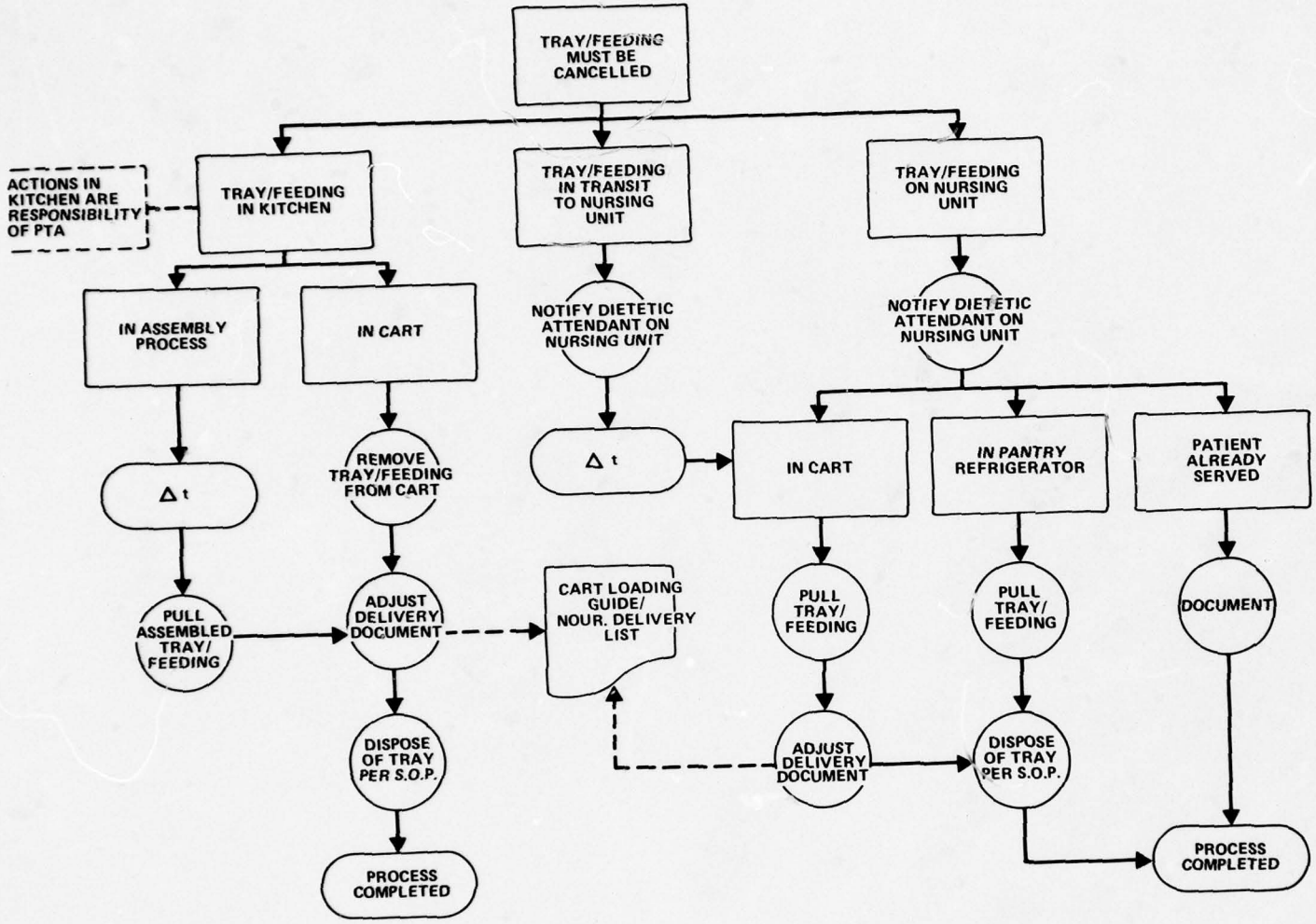
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-OUTPATIENT
NUTRITION CLINIC PROCESS
SHEET 3 OF 5 9 MAR 1975



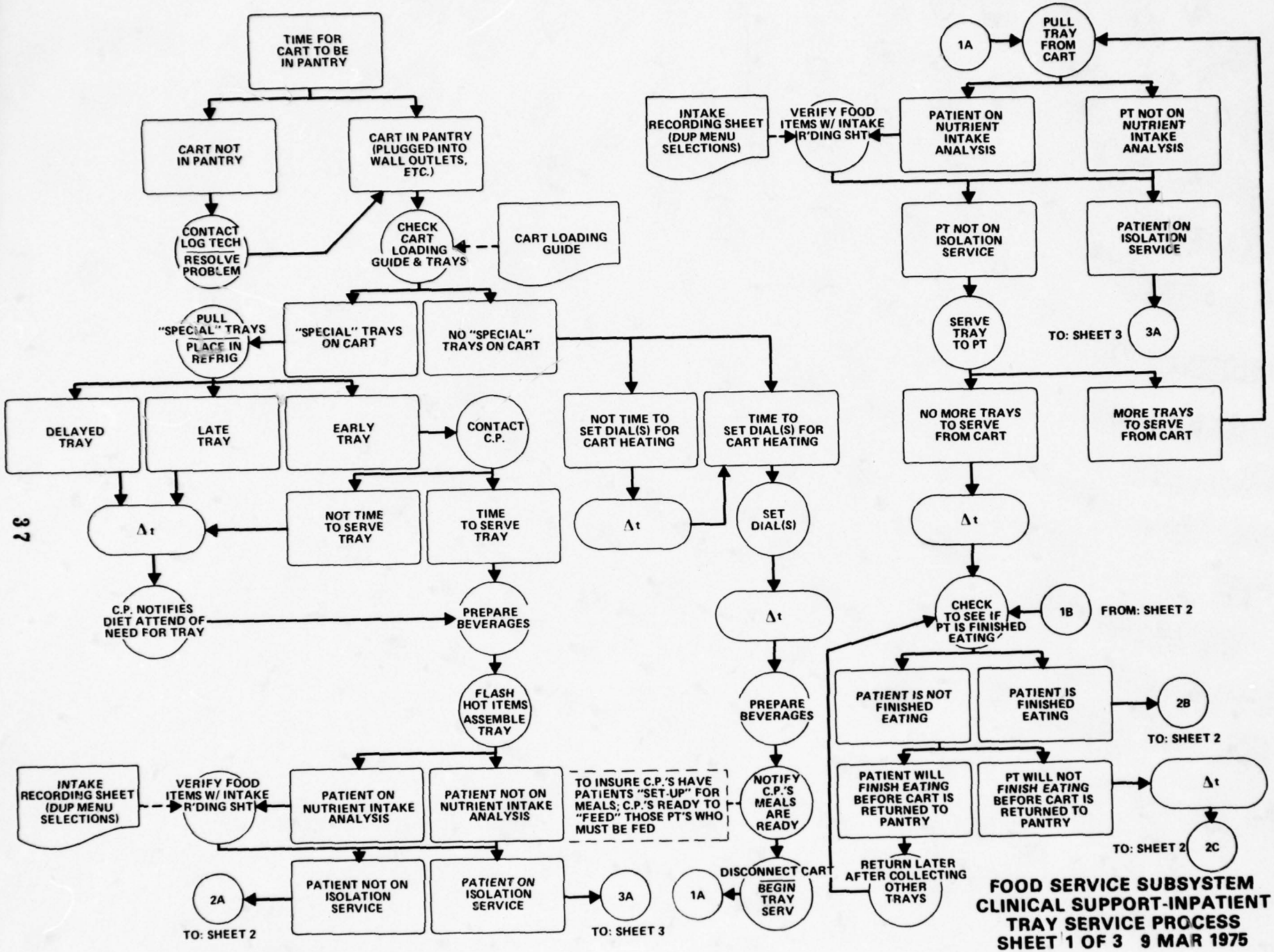
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-OUTPATIENT
NUTRITION CLINIC PROCESS
SHEET 4 OF 5 9 MAR 1975



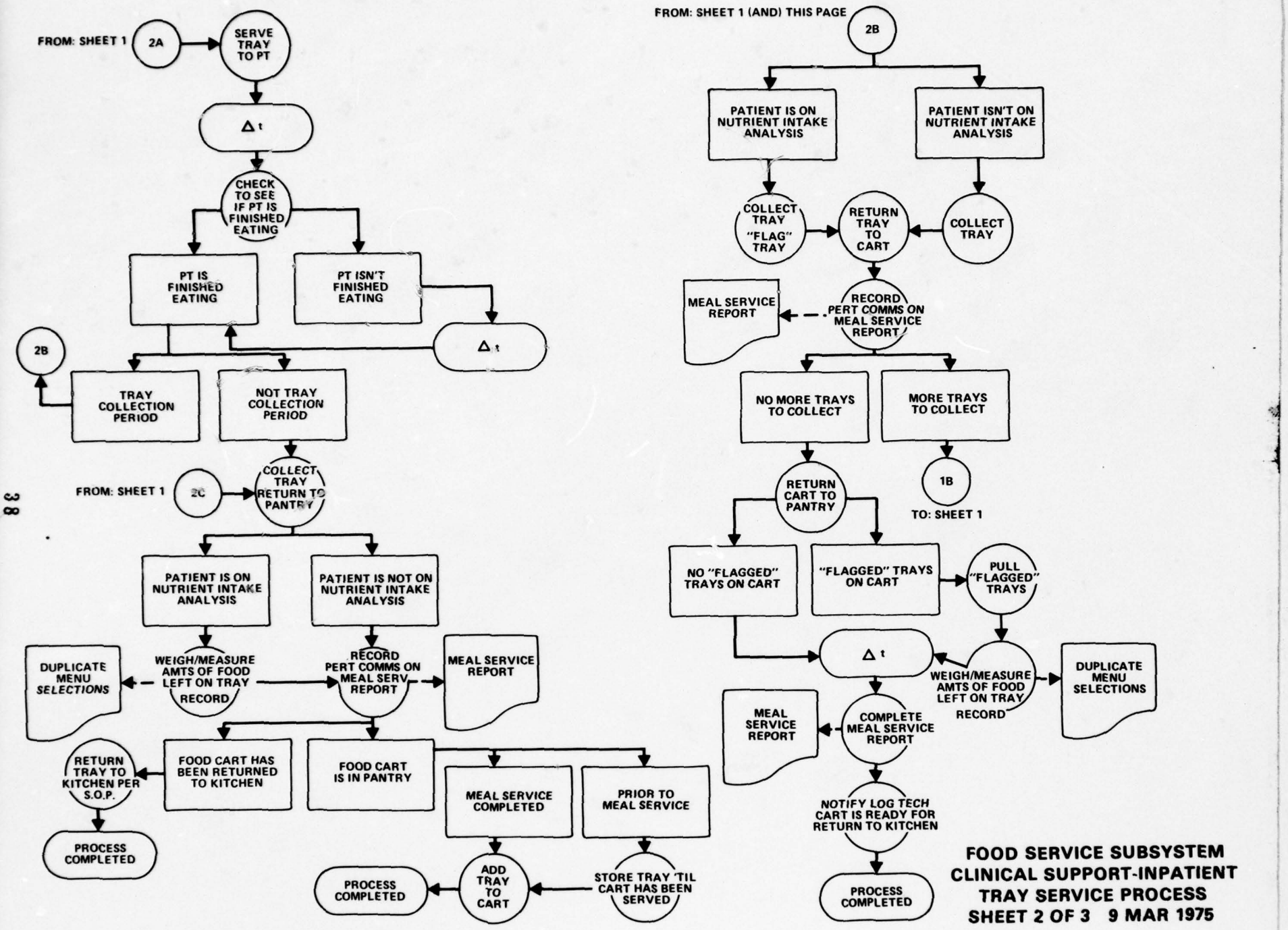
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-OUTPATIENT
NUTRITION CLINIC PROCESS
SHEET 5 OF 5 9 MAR 1975



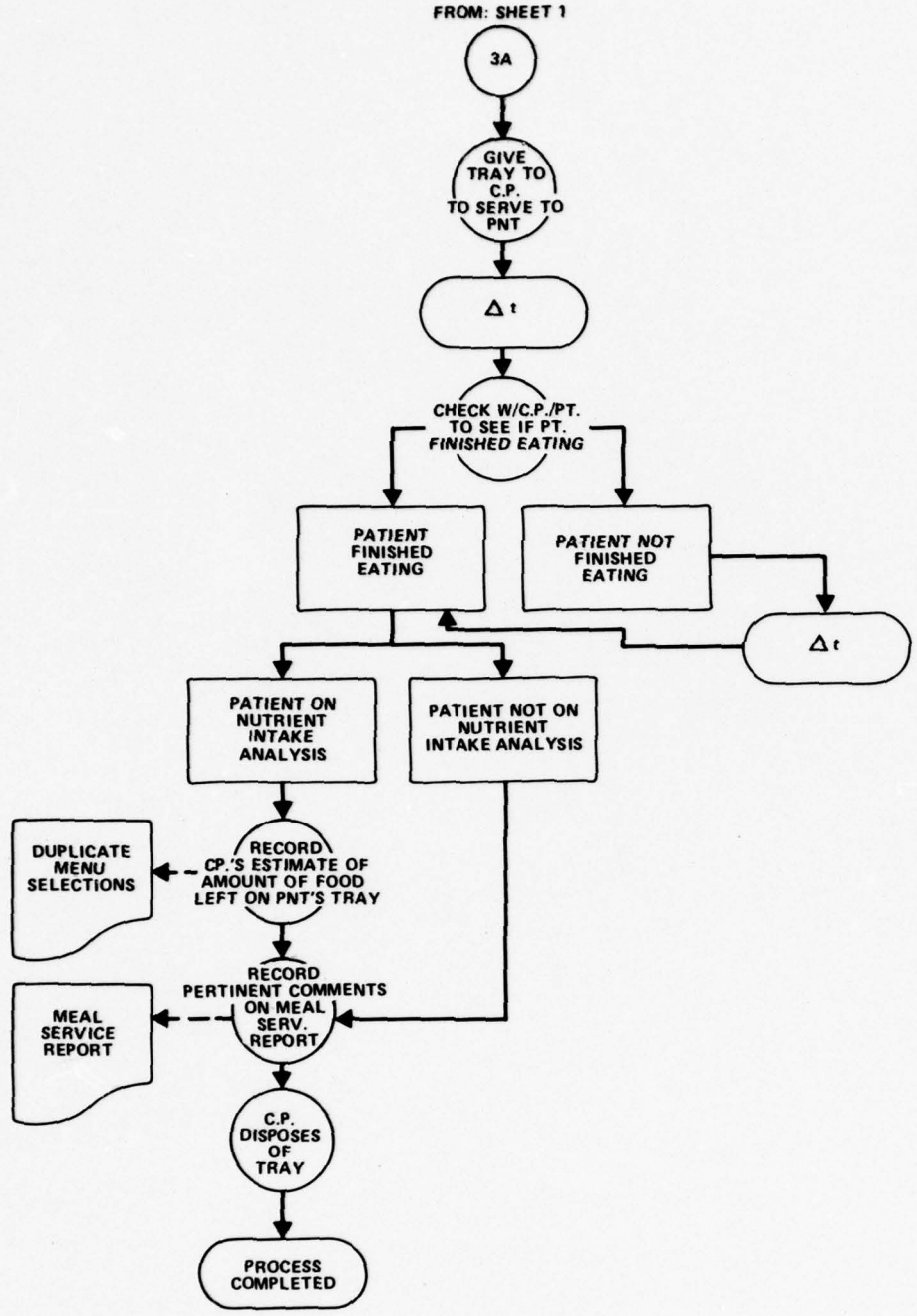
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-INPATIENT
TRAY/FEEDING CANCELLATION PROCESS
SHEET 1 OF 1 9 MAR 1975



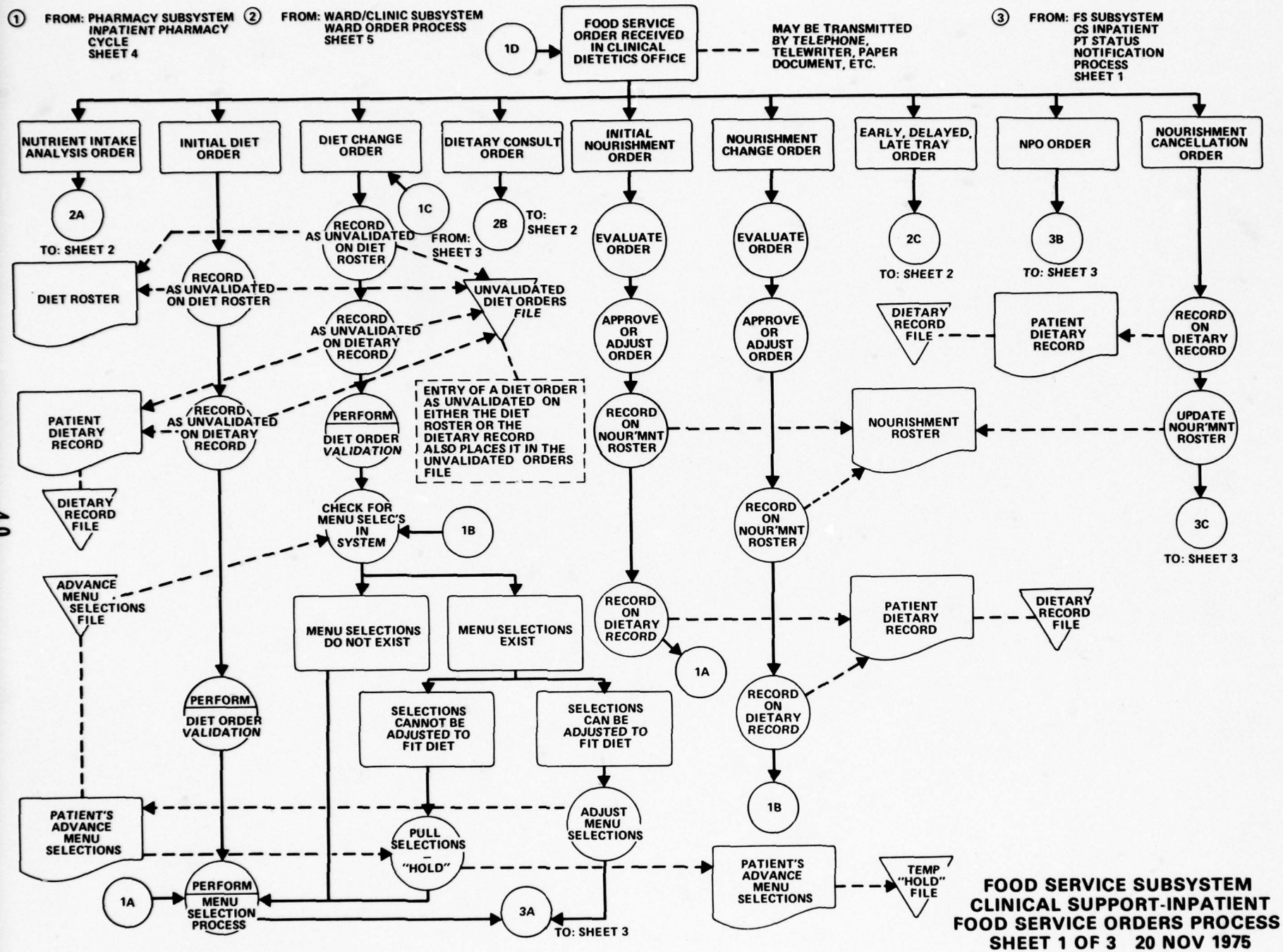
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-INPATIENT
TRAY SERVICE PROCESS
SHEET 1 OF 3 9 MAR 1975



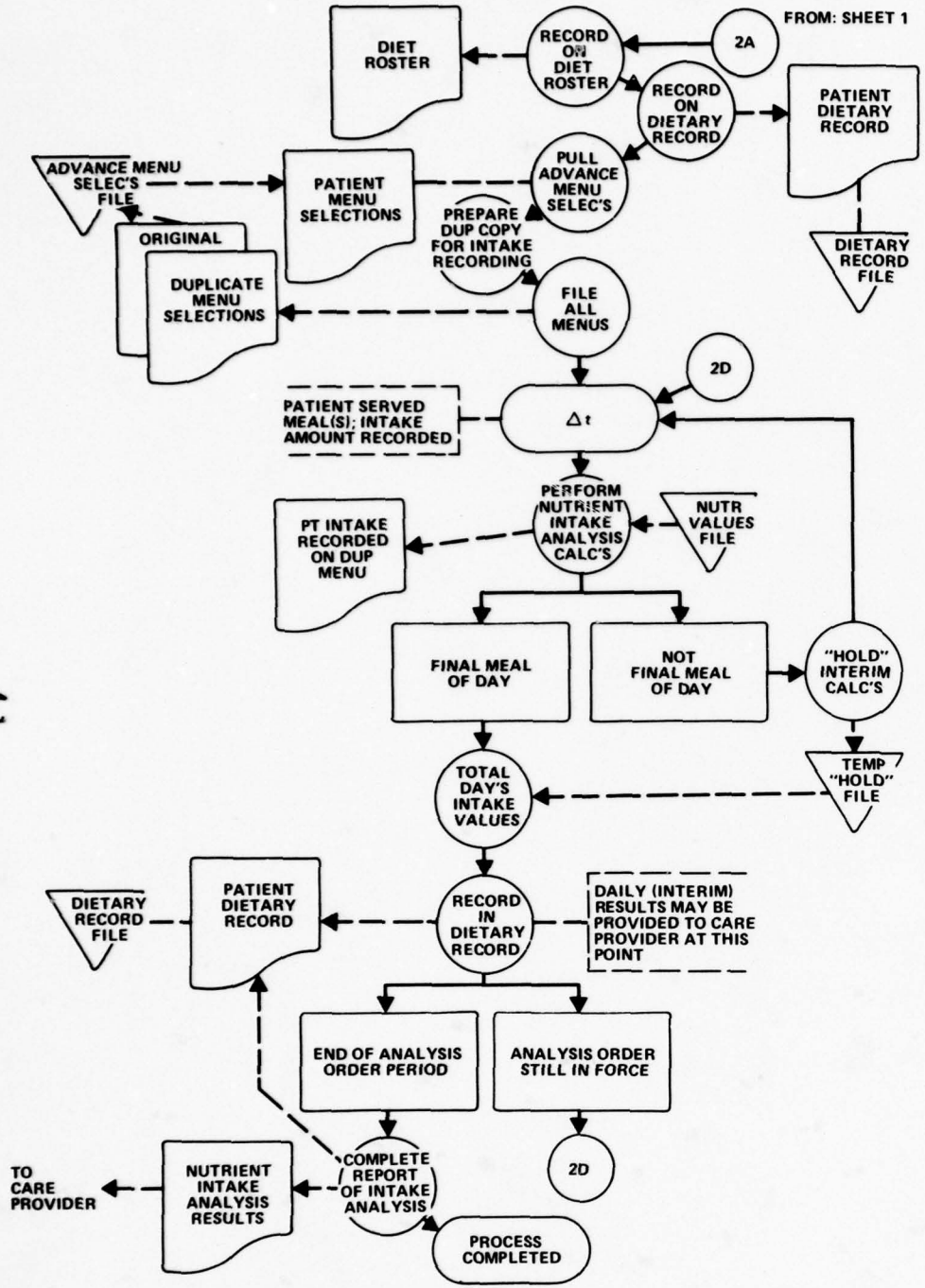
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-INPATIENT
TRAY SERVICE PROCESS
SHEET 2 OF 3 9 MAR 1975

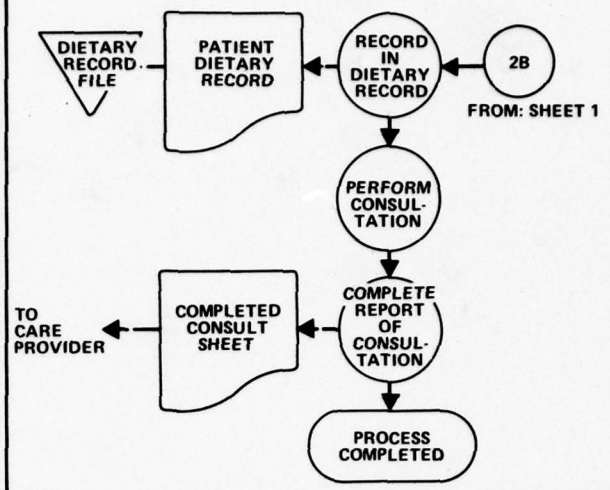


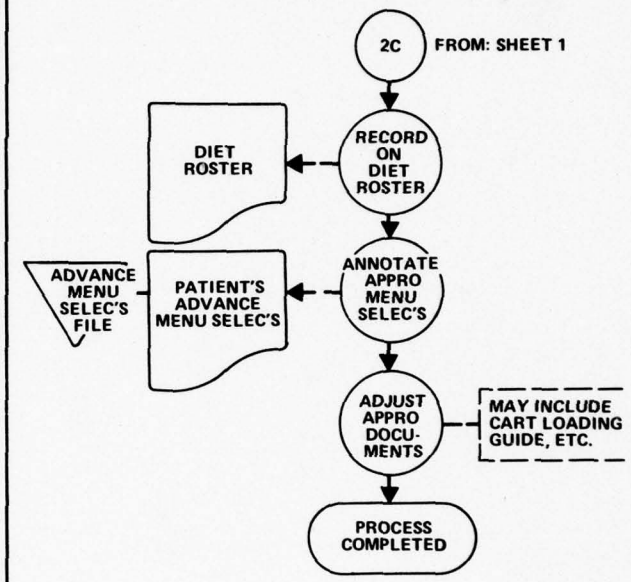
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-INPATIENT
TRAY SERVICE PROCESS
SHEET 3 OF 3 9 MAR 1975



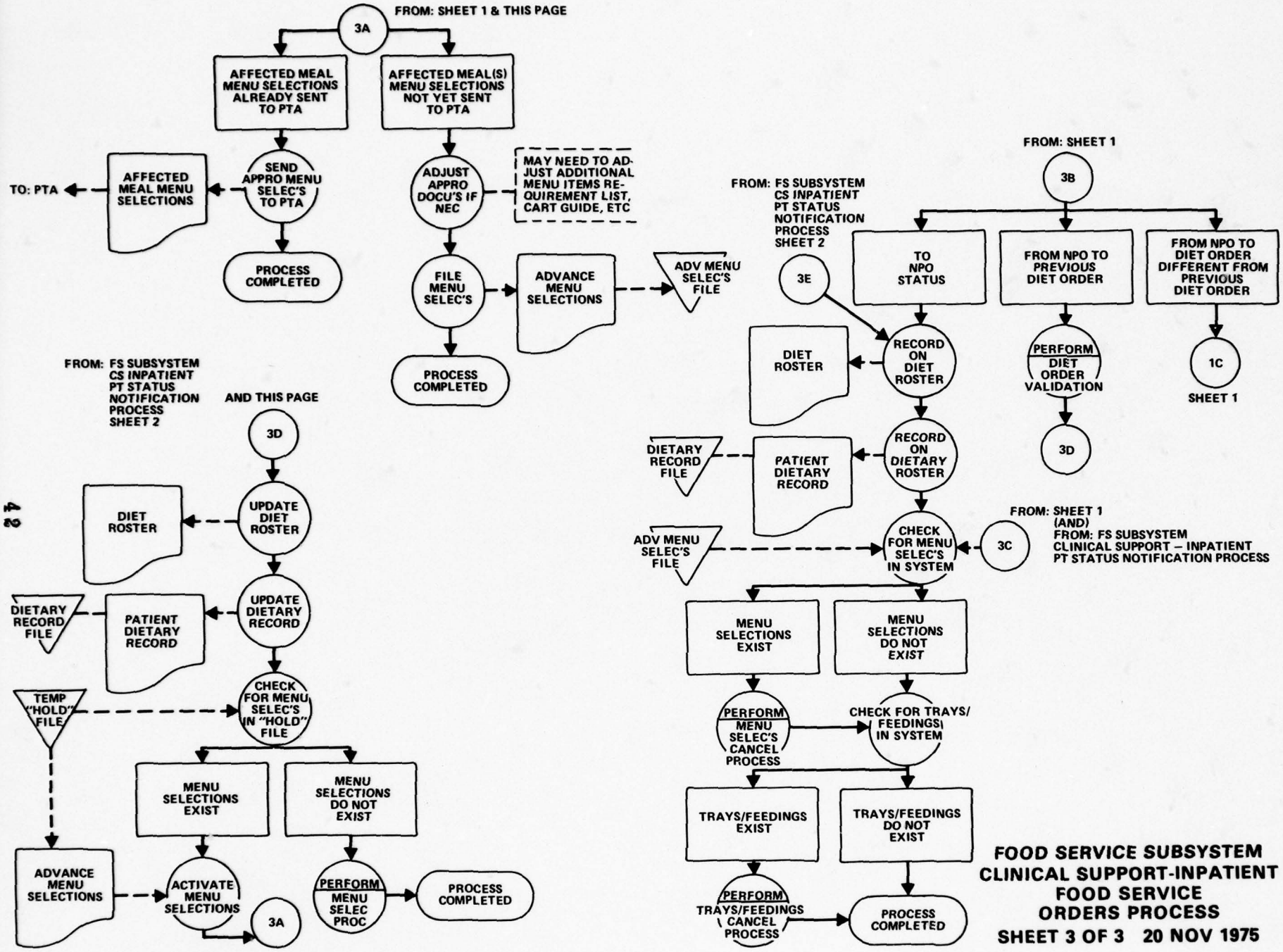
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-INPATIENT
FOOD SERVICE ORDERS PROCESS
SHEET 1 OF 3 20 NOV 1975



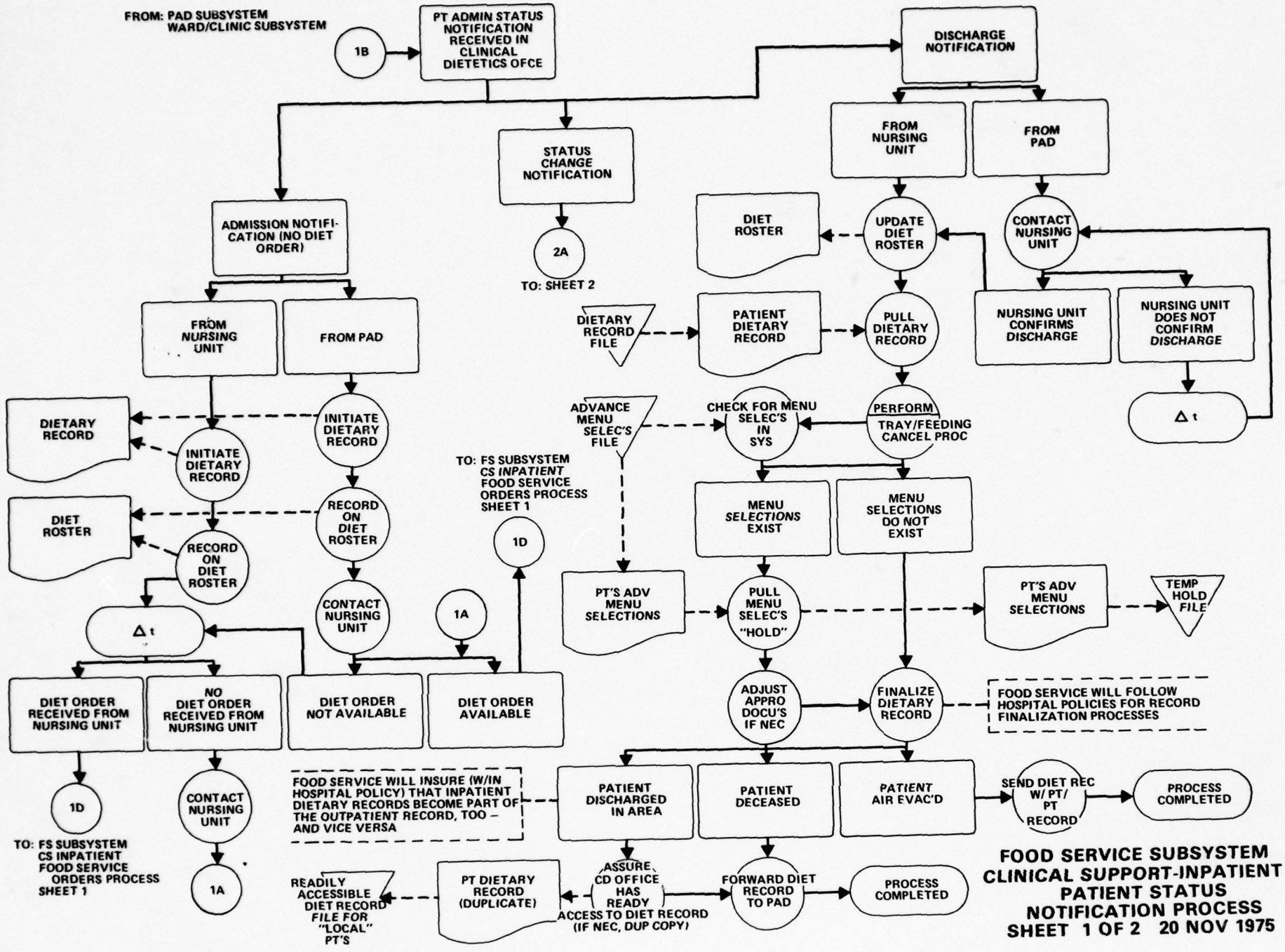




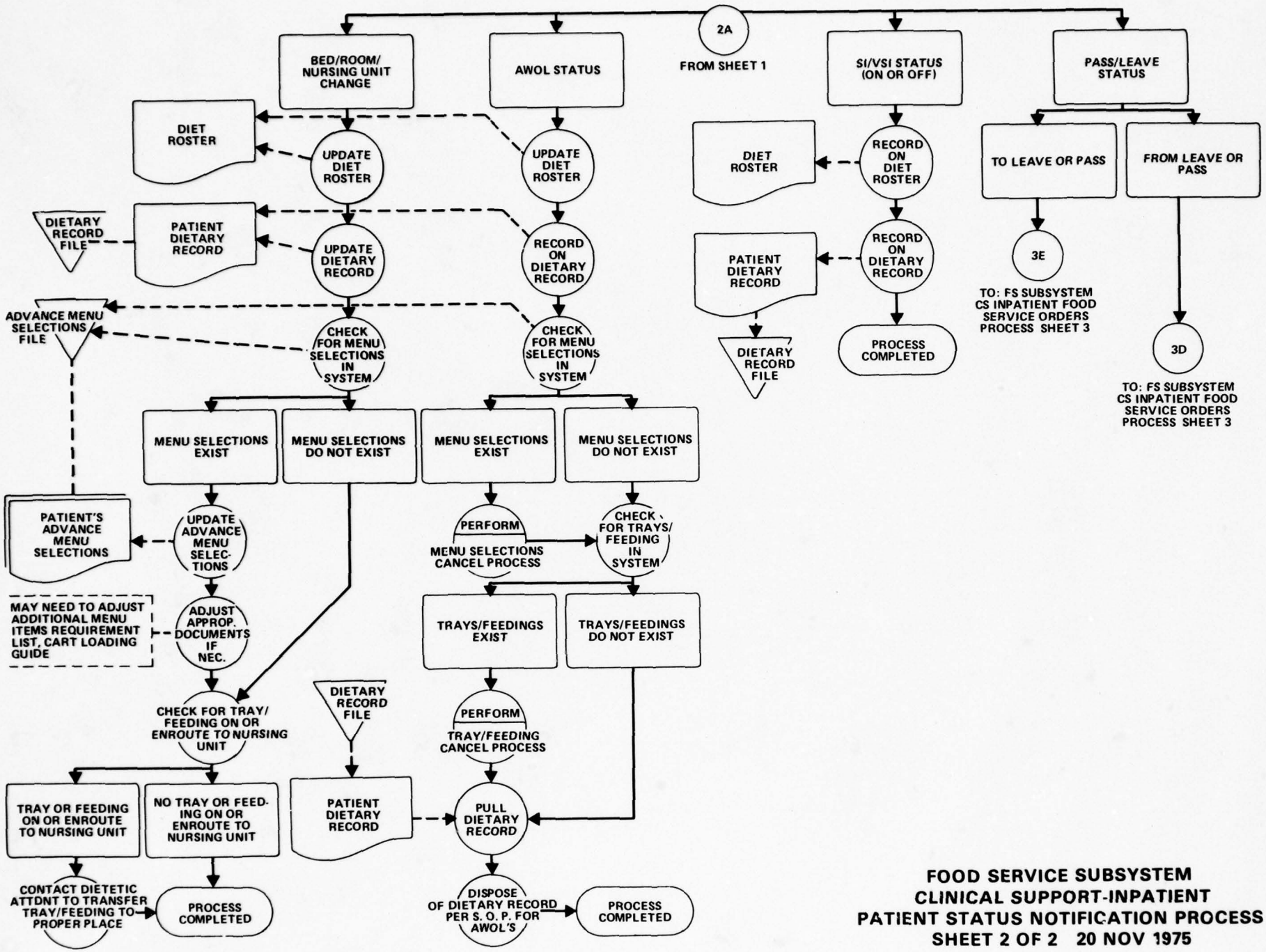
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-INPATIENT
FOOD SERVICE ORDERS PROCESS
SHEET 2 OF 3 20 NOV 1975



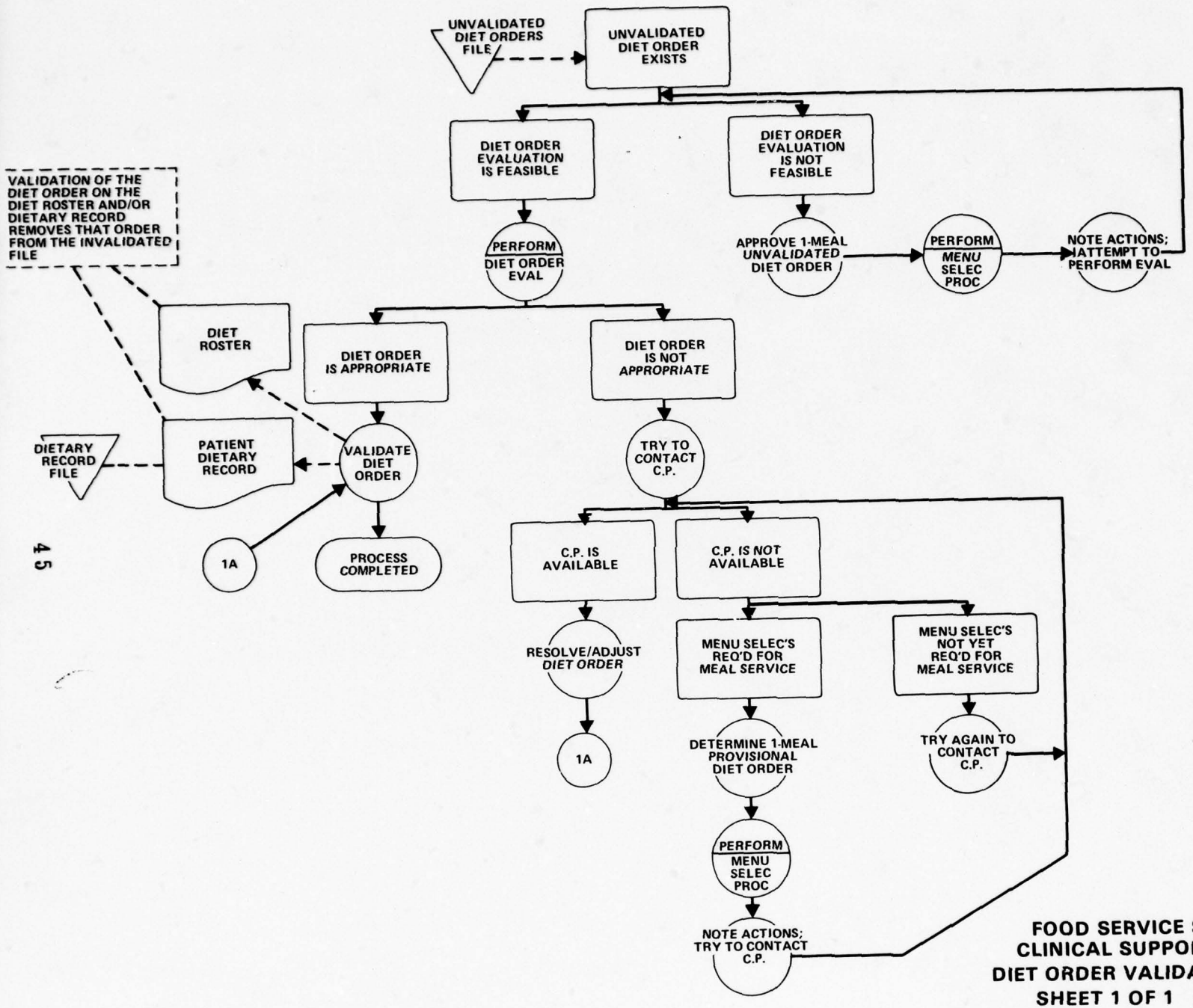
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-INPATIENT
FOOD SERVICE
ORDERS PROCESS
SHEET 3 OF 3 20 NOV 1975



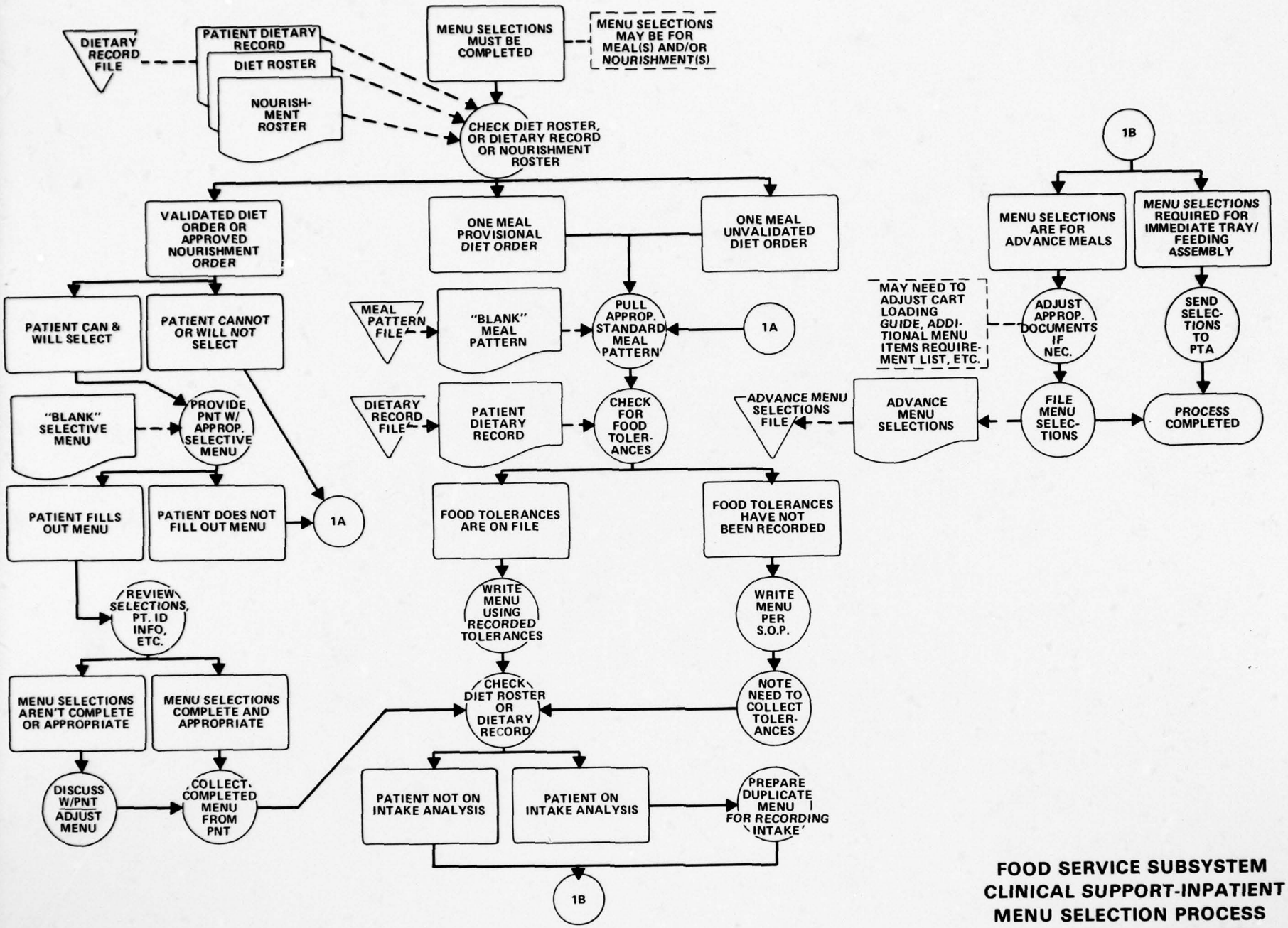
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-INPATIENT
PATIENT STATUS
NOTIFICATION PROCESS
SHEET 1 OF 2 20 NOV 1975



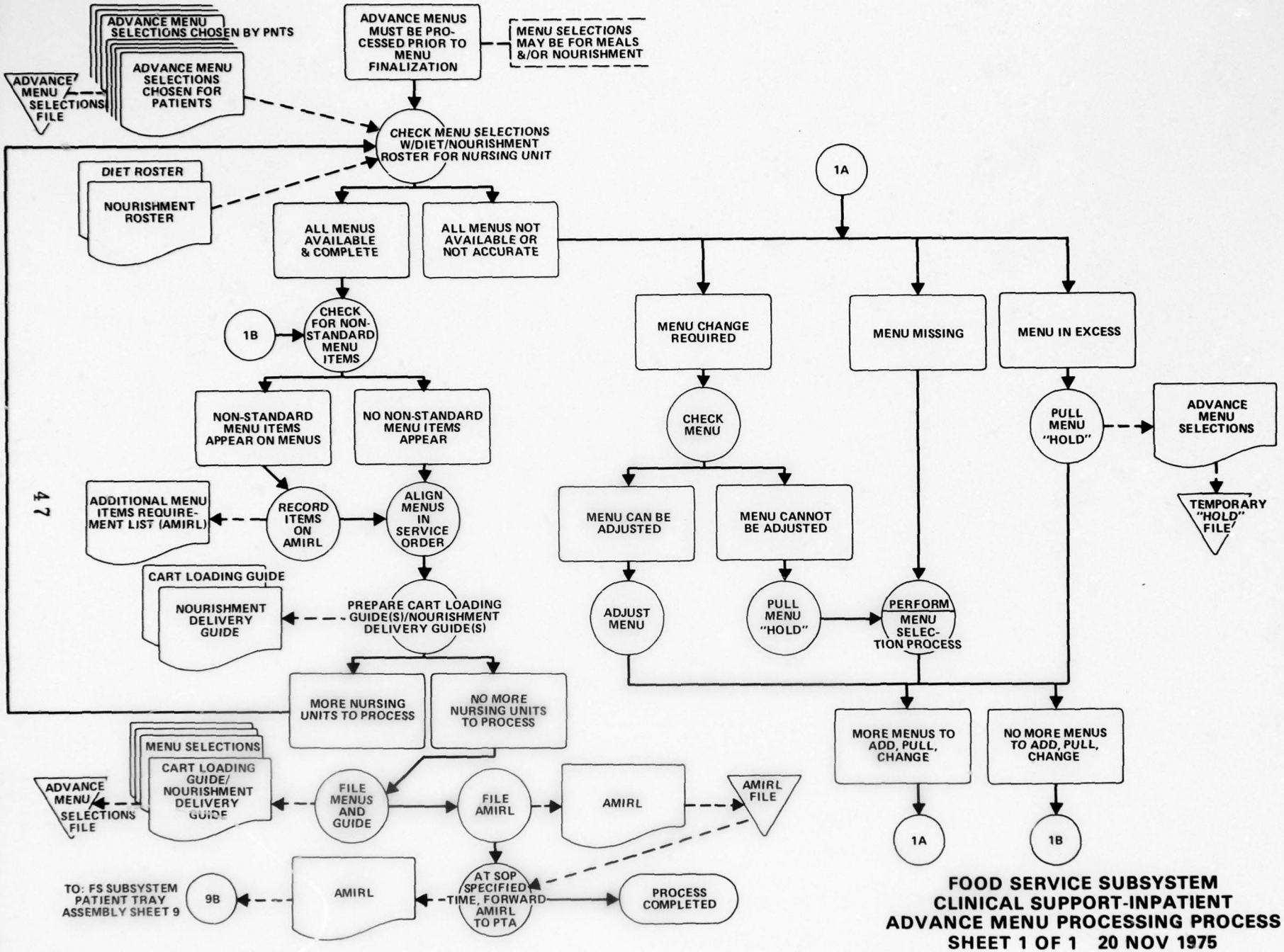
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-INPATIENT
PATIENT STATUS NOTIFICATION PROCESS
SHEET 2 OF 2 20 NOV 1975



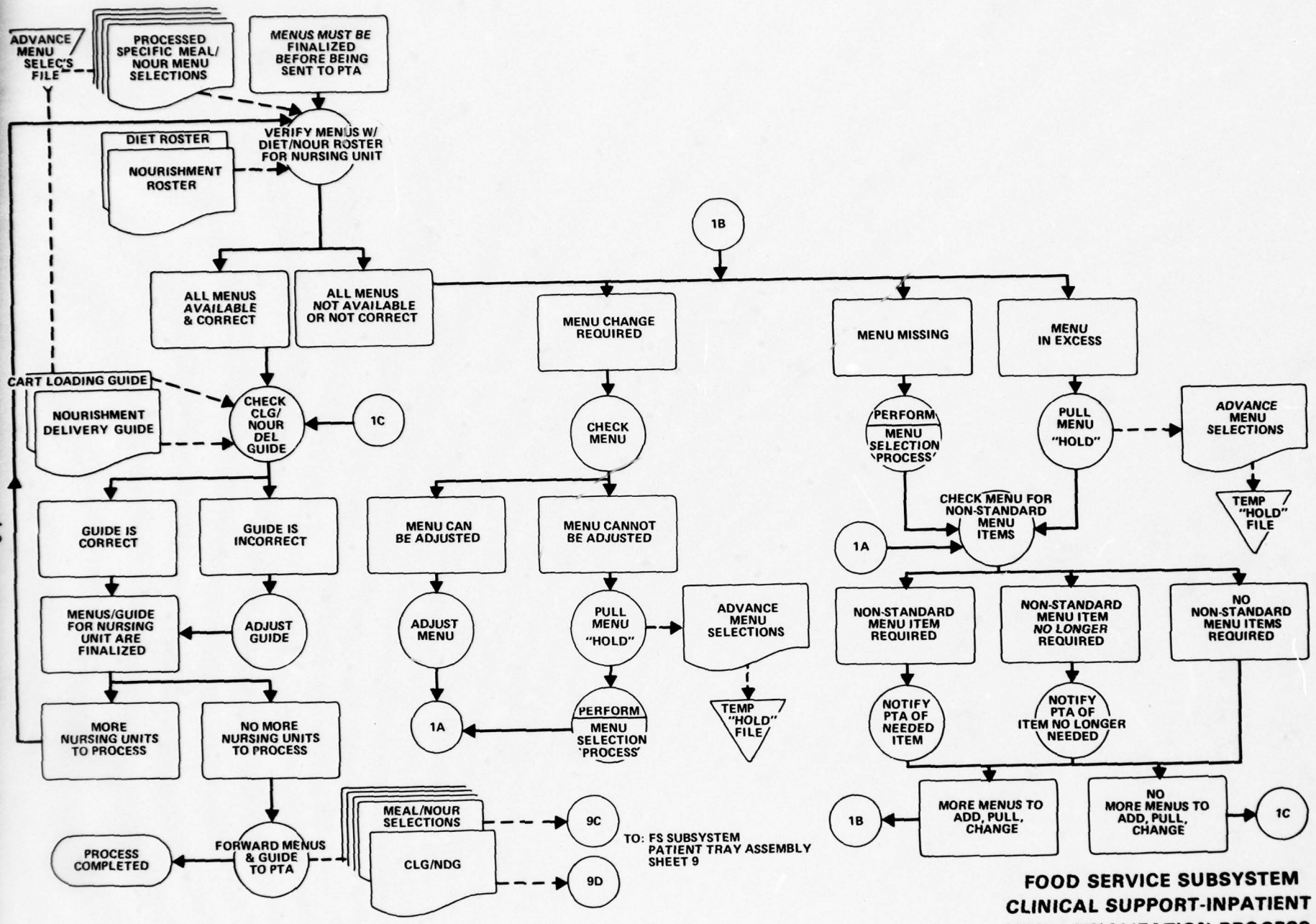
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-INPATIENT
DIET ORDER VALIDATION PROCESS
SHEET 1 OF 1 9 MAR 1975



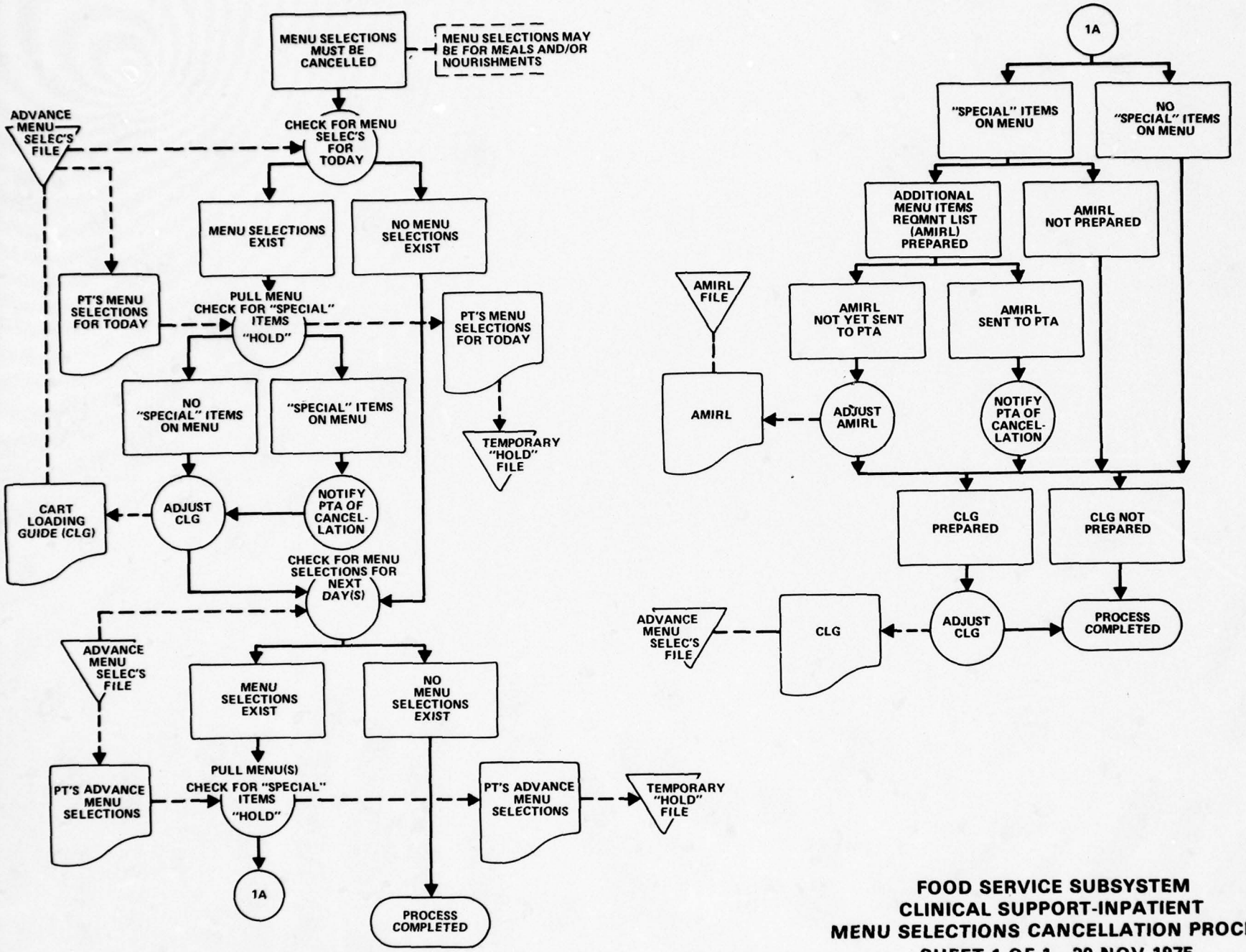
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-INPATIENT
MENU SELECTION PROCESS
SHEET 1 OF 1 9 MAR 1975



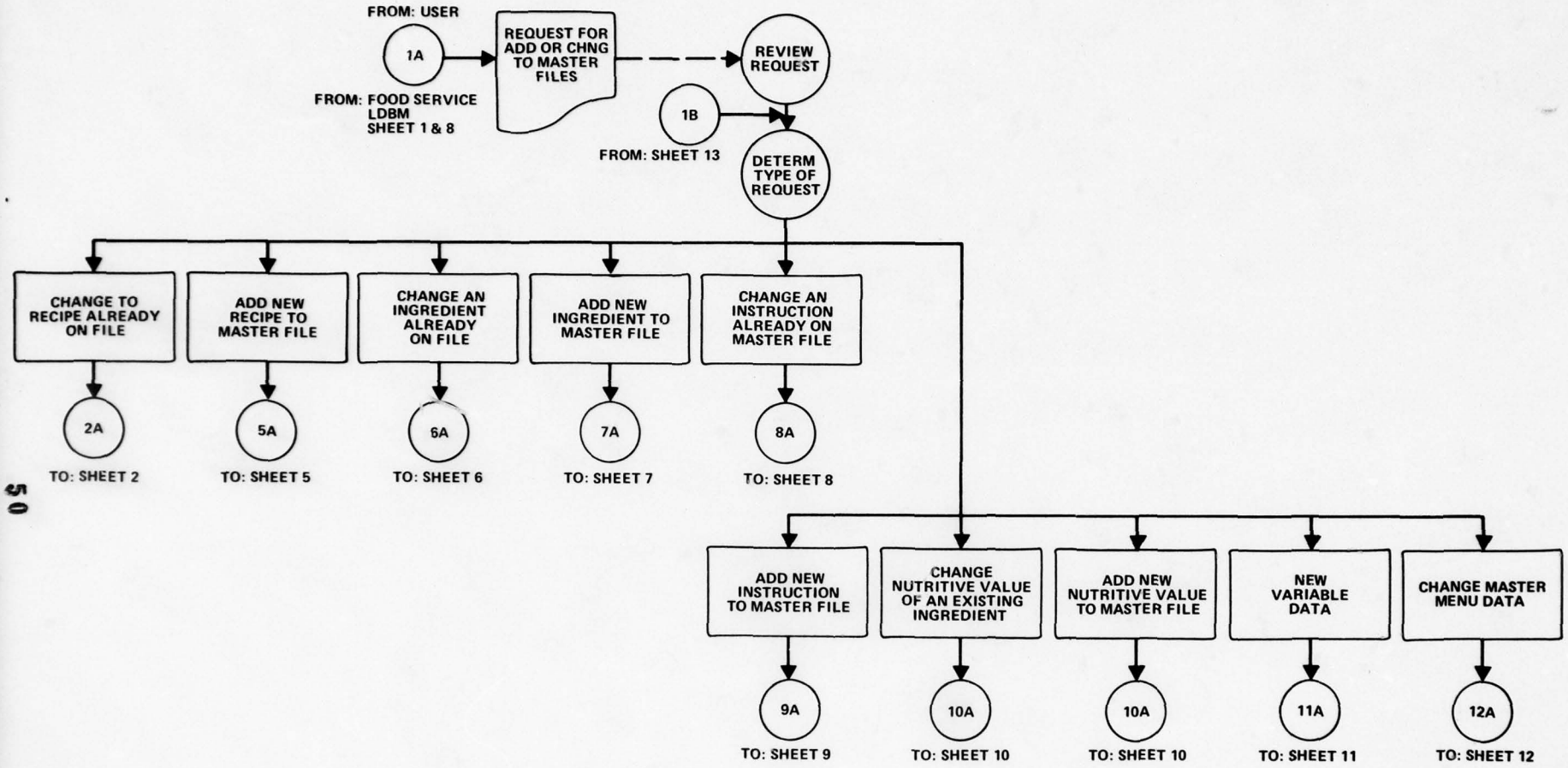
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-INPATIENT
ADVANCE MENU PROCESSING PROCESS
SHEET 1 OF 1 20 NOV 1975



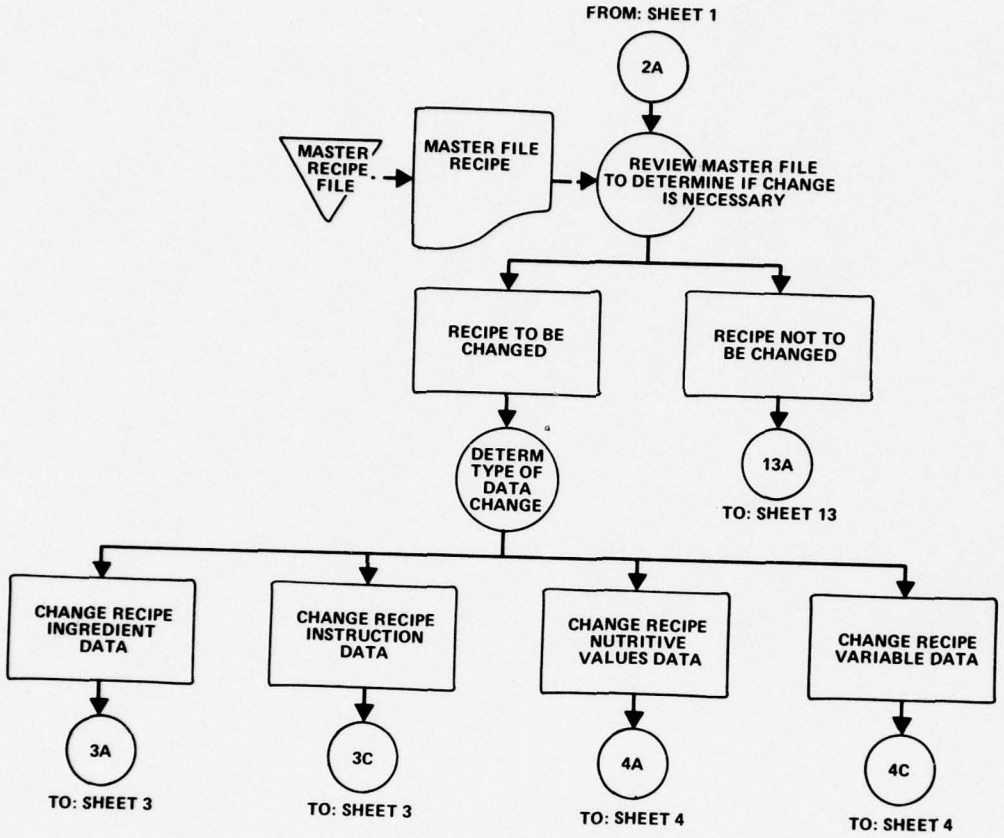
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-INPATIENT
MENU FINALIZATION PROCESS
SHEET 1 OF 1 9 MAR 1975



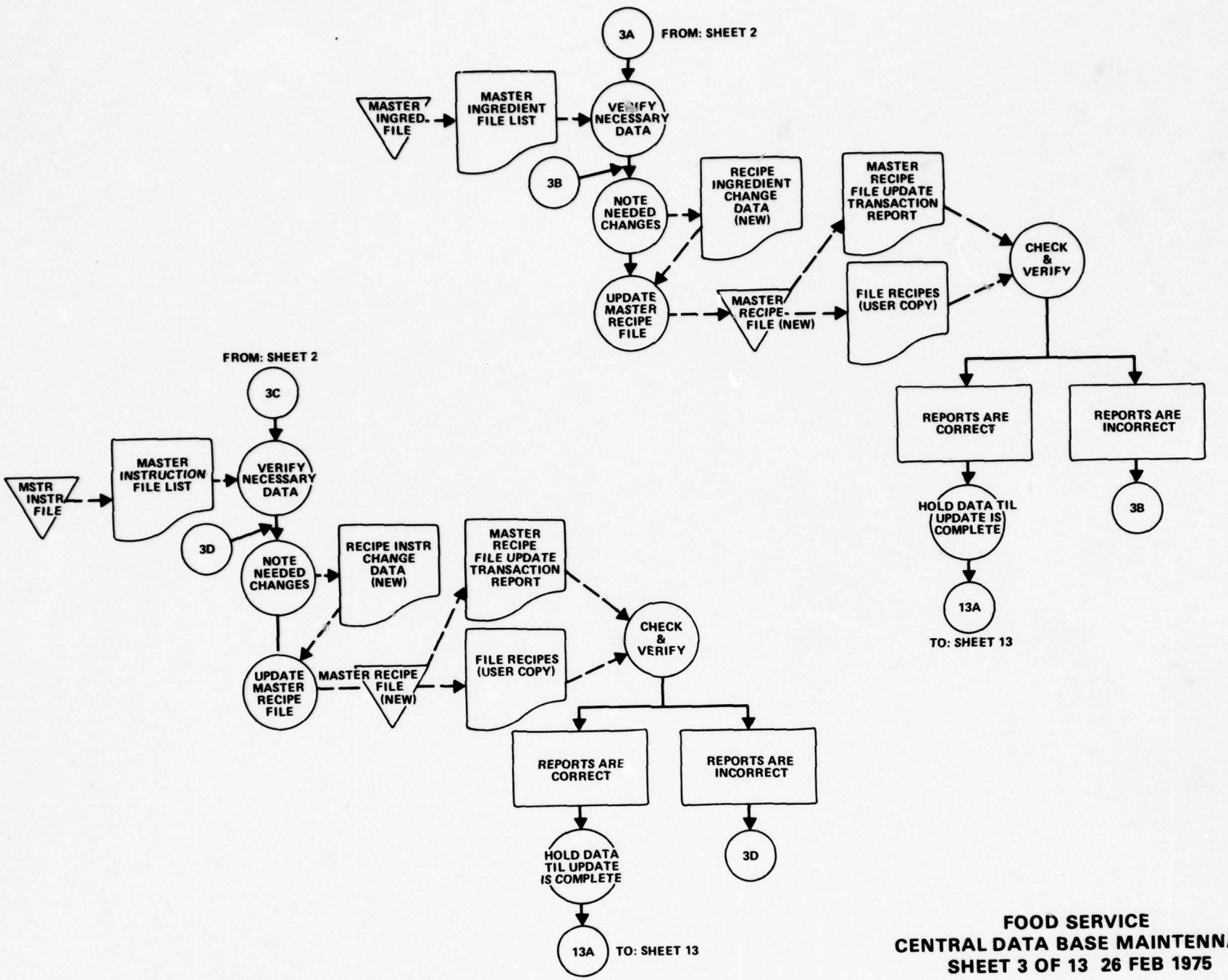
FOOD SERVICE SUBSYSTEM
CLINICAL SUPPORT-INPATIENT
MENU SELECTIONS CANCELLATION PROCESS
SHEET 1 OF 1 20 NOV 1975

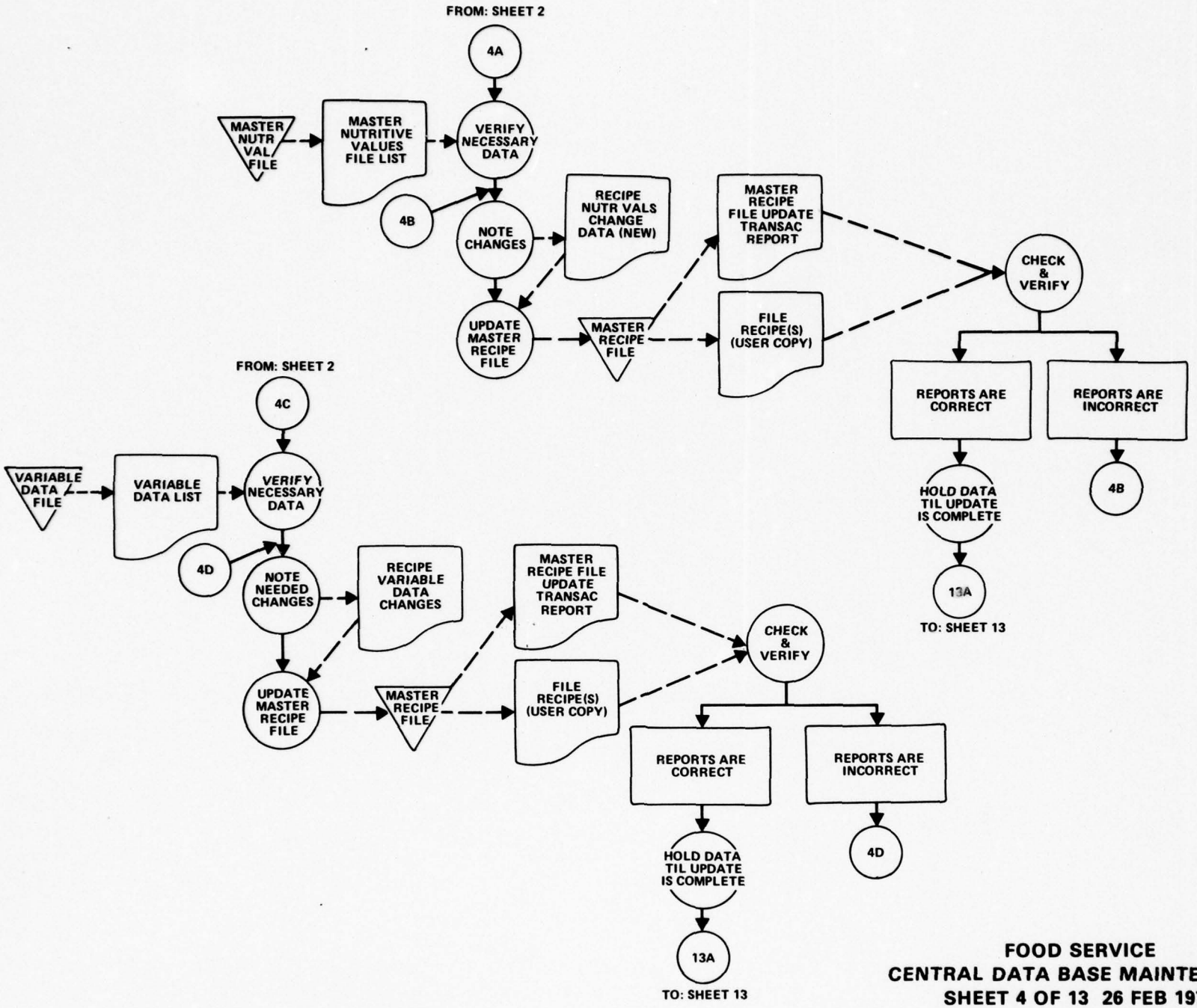


FOOD SERVICE
CENTRAL DATA BASE MAINTENANCE
SHEET 1 OF 13 26 FEB 1975

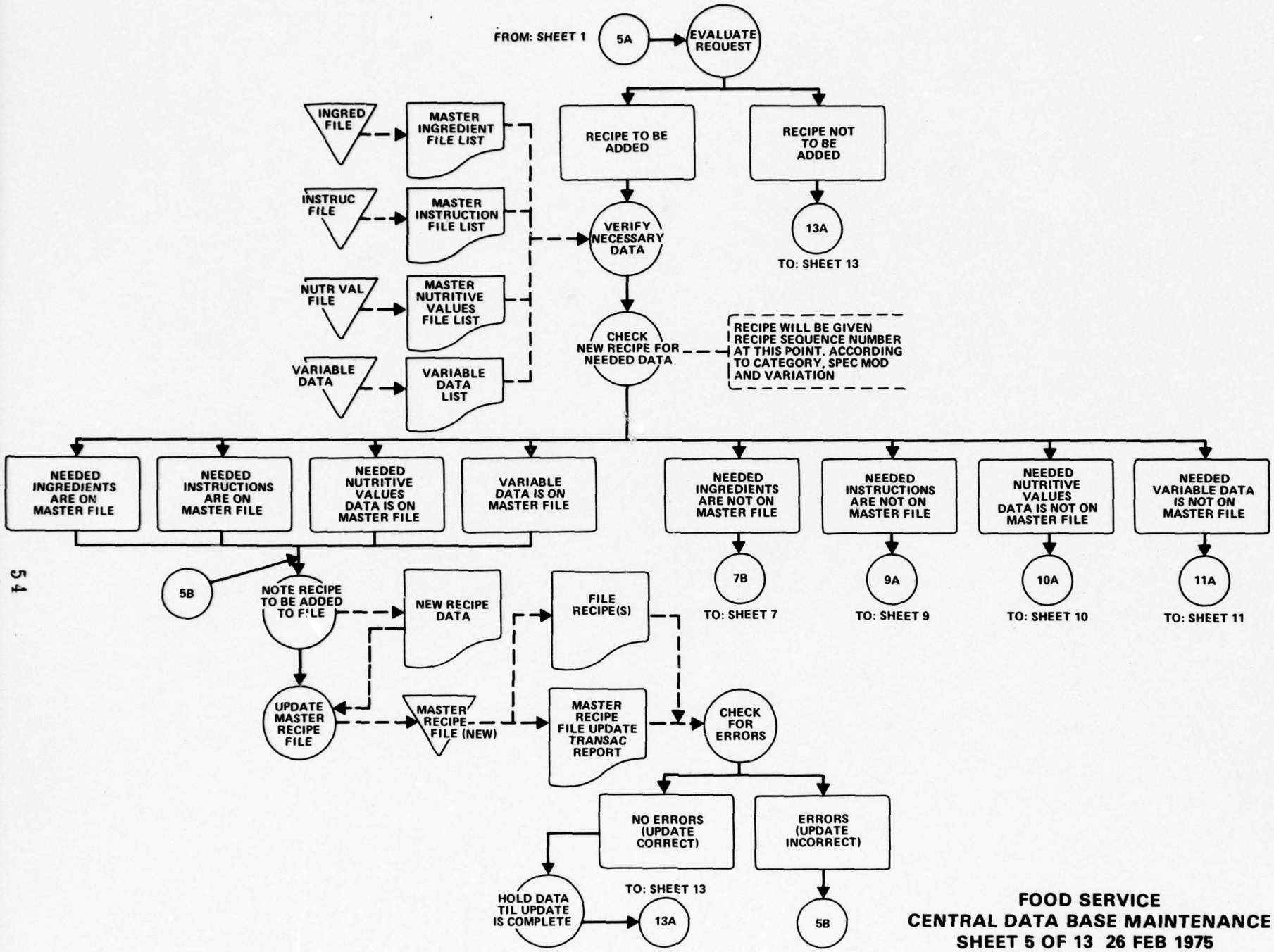


FOOD SERVICE
CENTRAL DATA BASE MAINTENANCE
SHEET 2 OF 13 26 FEB 1975


3A
FROM: SHEET 2
MASTER INGRED. FILE
MASTER INGREDIENT FILE LIST
VERIFY NECESSARY DATA
3B
NOTE NEEDED CHANGES
RECIPE INGREDIENT CHANGE DATA (NEW)
MASTER RECIPE FILE UPDATE TRANSACTION REPORT
CHECK & VERIFY
UPDATE MASTER RECIPE FILE
MASTER RECIPE FILE (NEW)
FILE RECIPES (USER COPY)
REPORTS ARE CORRECT
REPORTS ARE INCORRECT
HOLD DATA TIL UPDATE IS COMPLETE
3B
13A
TO: SHEET 13
FROM: SHEET 2
3C
MSTR INSTR FILE
MASTER INSTRUCTION FILE LIST
VERIFY NECESSARY DATA
3D
NOTE NEEDED CHANGES
RECIPE INSTR CHANGE DATA (NEW)
MASTER RECIPE FILE UPDATE TRANSACTION REPORT
CHECK & VERIFY
UPDATE MASTER RECIPE FILE
MASTER RECIPE FILE (NEW)
FILE RECIPES (USER COPY)
REPORTS ARE CORRECT
REPORTS ARE INCORRECT
HOLD DATA TIL UPDATE IS COMPLETE
3D
13A
TO: SHEET 13
FOOD SERVICE
CENTRAL DATA BASE MAINTENNACE
SHEET 3 OF 13 26 FEB 1975

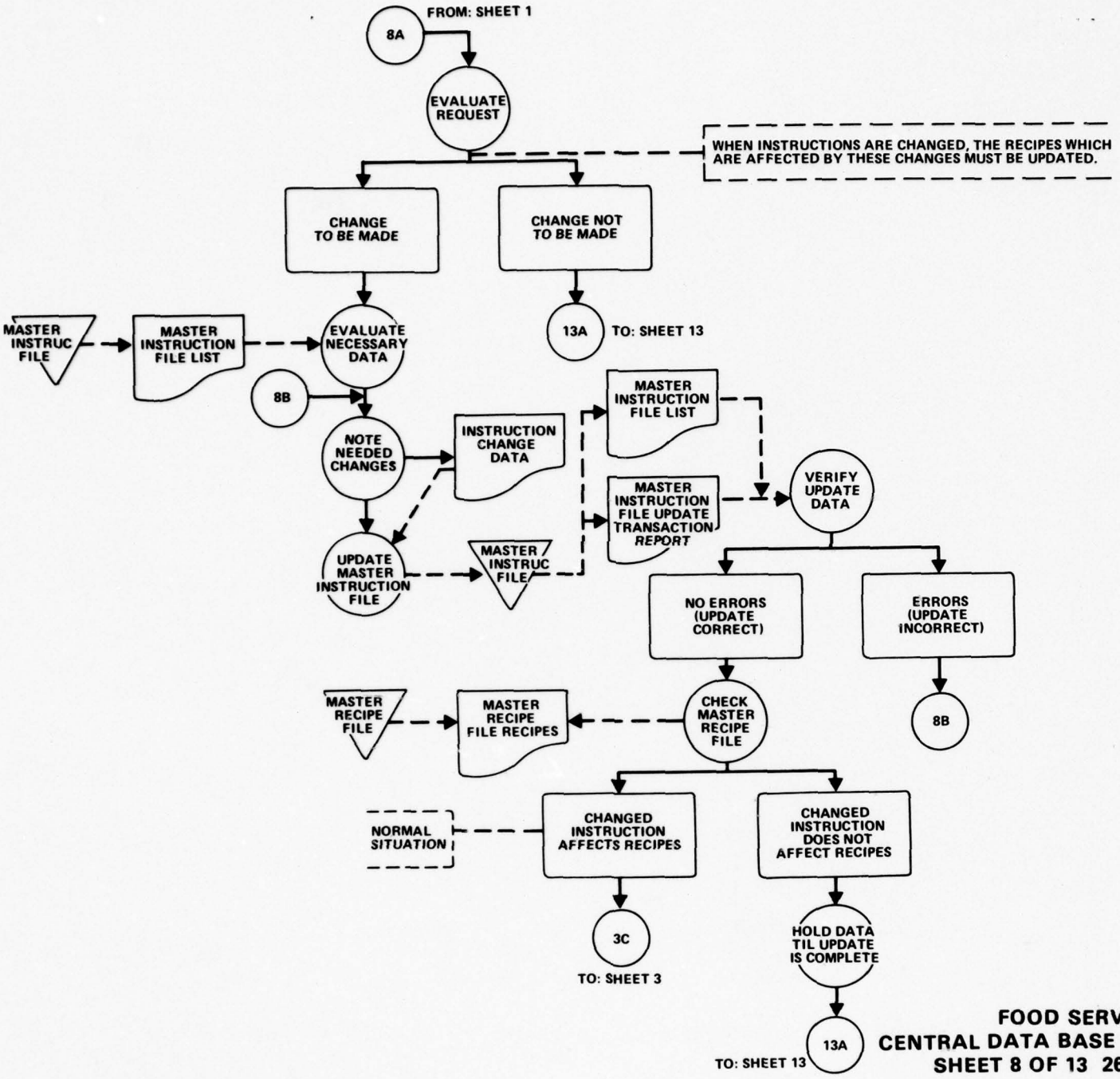


FOOD SERVICE
CENTRAL DATA BASE MAINTENANCE
SHEET 4 OF 13 26 FEB 1975

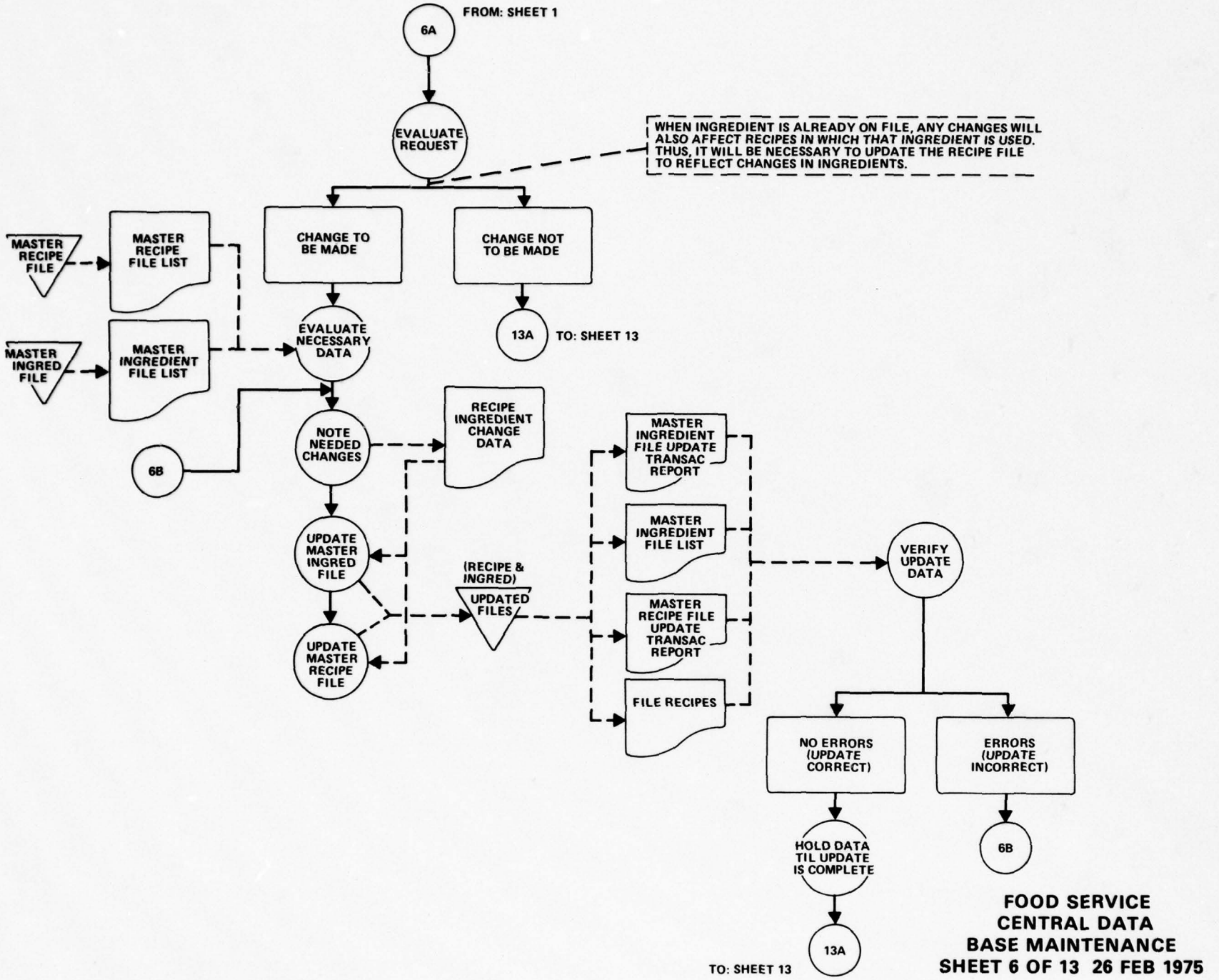


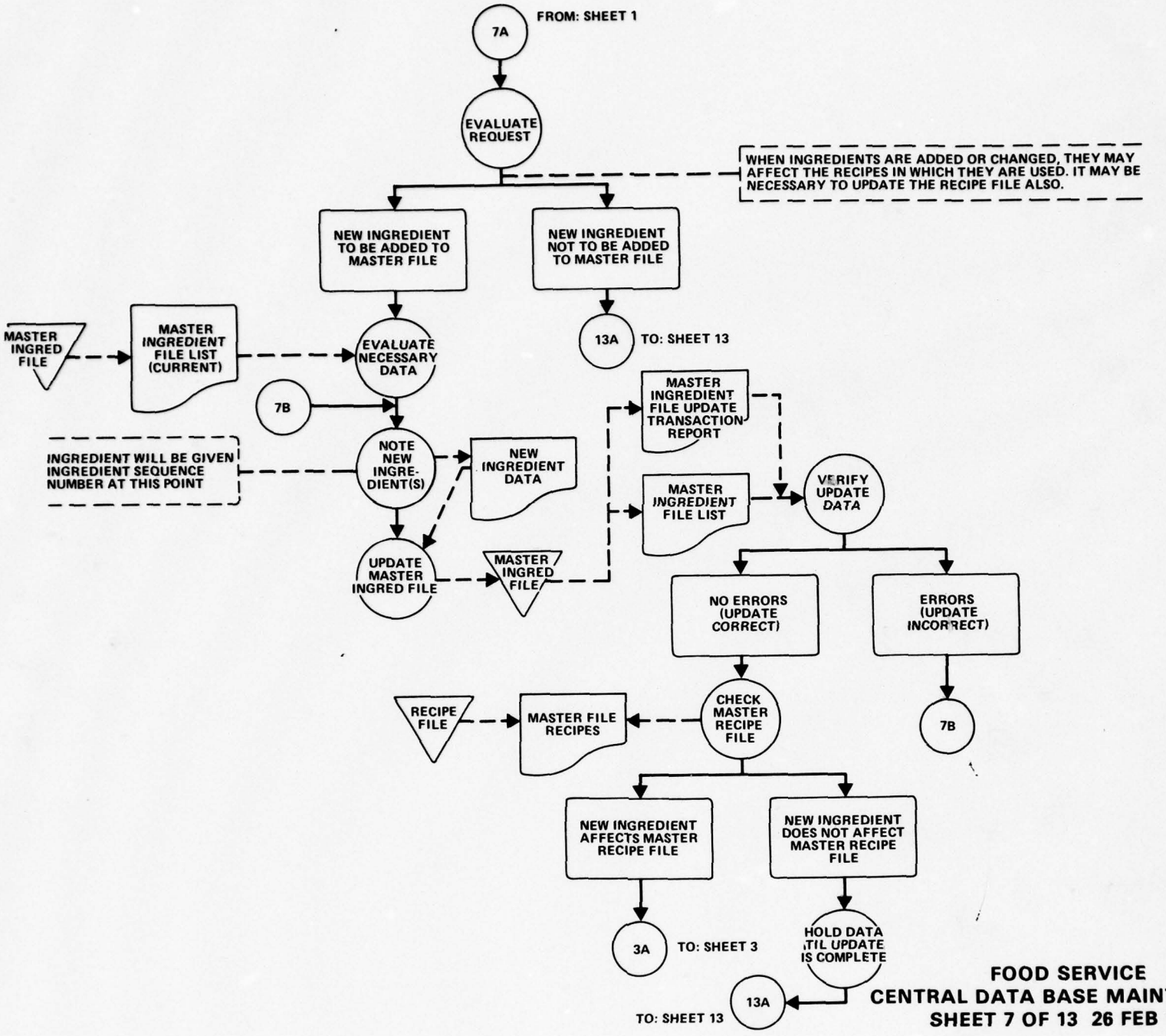
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FOOD SERVICE
CENTRAL DATA BASE MAINTENANCE
SHEET 5 OF 13 26 FEB 1975

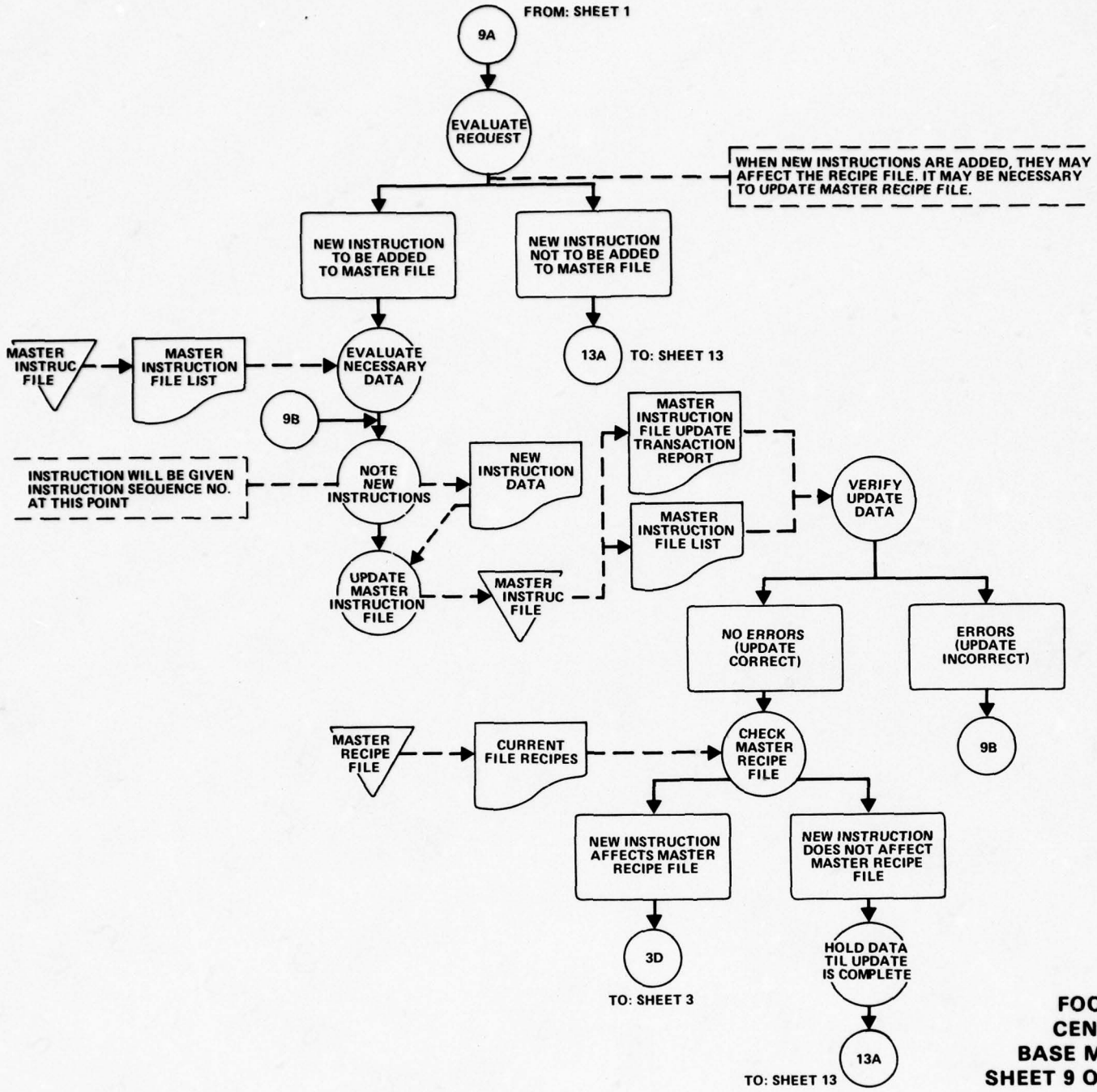


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CENTRAL DATA BASE MAINTENANCE
SHEET 8 OF 13 26 FEB 1975

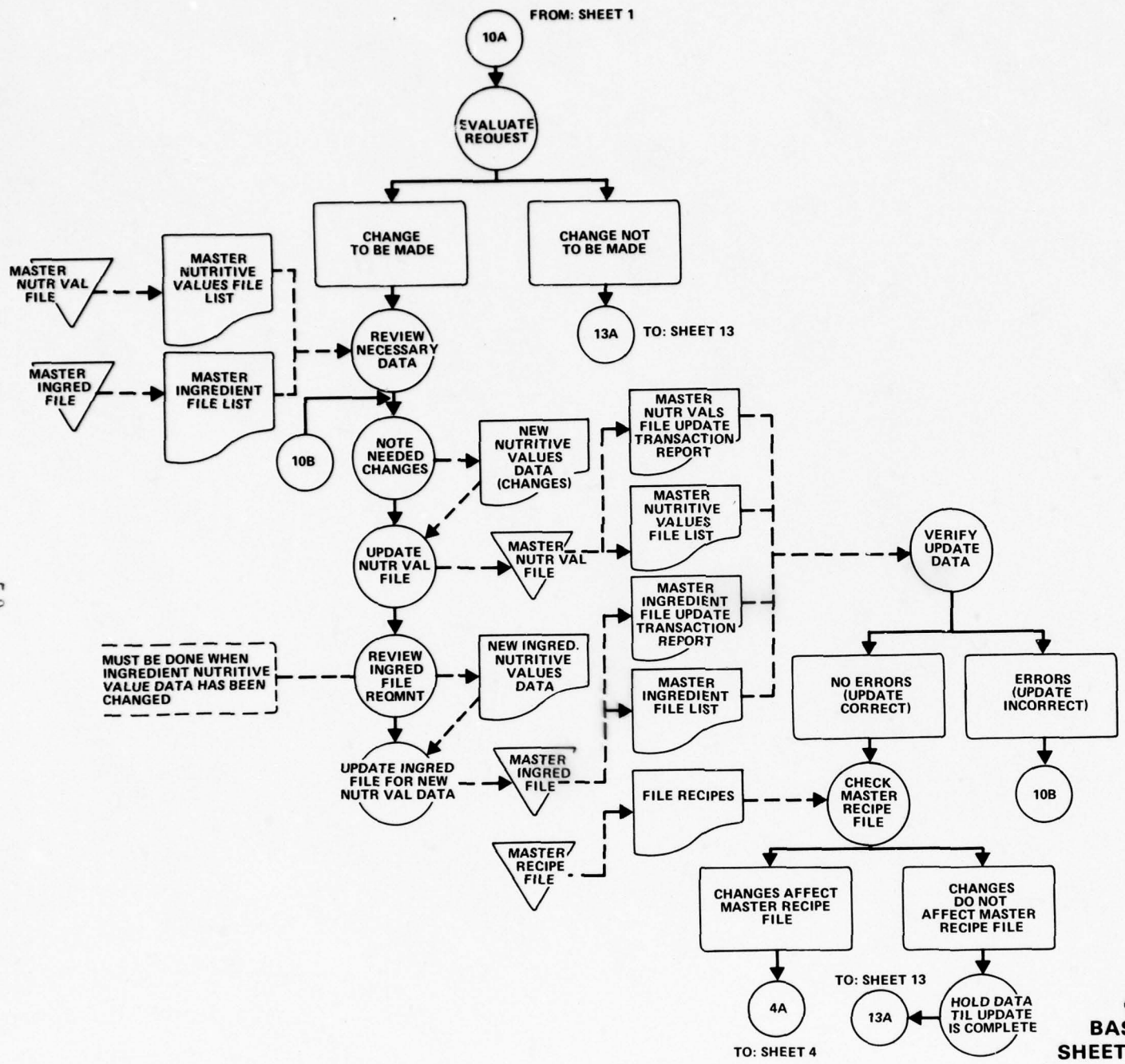

6A
FROM: SHEET 1
EVALUATE REQUEST
WHEN INGREDIENT IS ALREADY ON FILE, ANY CHANGES WILL ALSO AFFECT RECIPES IN WHICH THAT INGREDIENT IS USED. THUS, IT WILL BE NECESSARY TO UPDATE THE RECIPE FILE TO REFLECT CHANGES IN INGREDIENTS.
CHANGE TO BE MADE
CHANGE NOT TO BE MADE
MASTER RECIPE FILE
MASTER RECIPE FILE LIST
MASTER INGRED FILE
MASTER INGREDIENT FILE LIST
EVALUATE NECESSARY DATA
13A
TO: SHEET 13
6B
NOTE NEEDED CHANGES
RECIPE INGREDIENT CHANGE DATA
UPDATE MASTER INGRED FILE
UPDATE MASTER RECIPE FILE
(RECIPE & INGRED) UPDATED FILES
MASTER INGREDIENT FILE UPDATE TRANSAC REPORT
MASTER INGREDIENT FILE LIST
MASTER RECIPE FILE UPDATE TRANSAC REPORT
FILE RECIPES
VERIFY UPDATE DATA
NO ERRORS (UPDATE CORRECT)
ERRORS (UPDATE INCORRECT)
HOLD DATA TIL UPDATE IS COMPLETE
6B
13A
TO: SHEET 13
FOOD SERVICE
CENTRAL DATA
BASE MAINTENANCE
SHEET 6 OF 13 26 FEB 1975



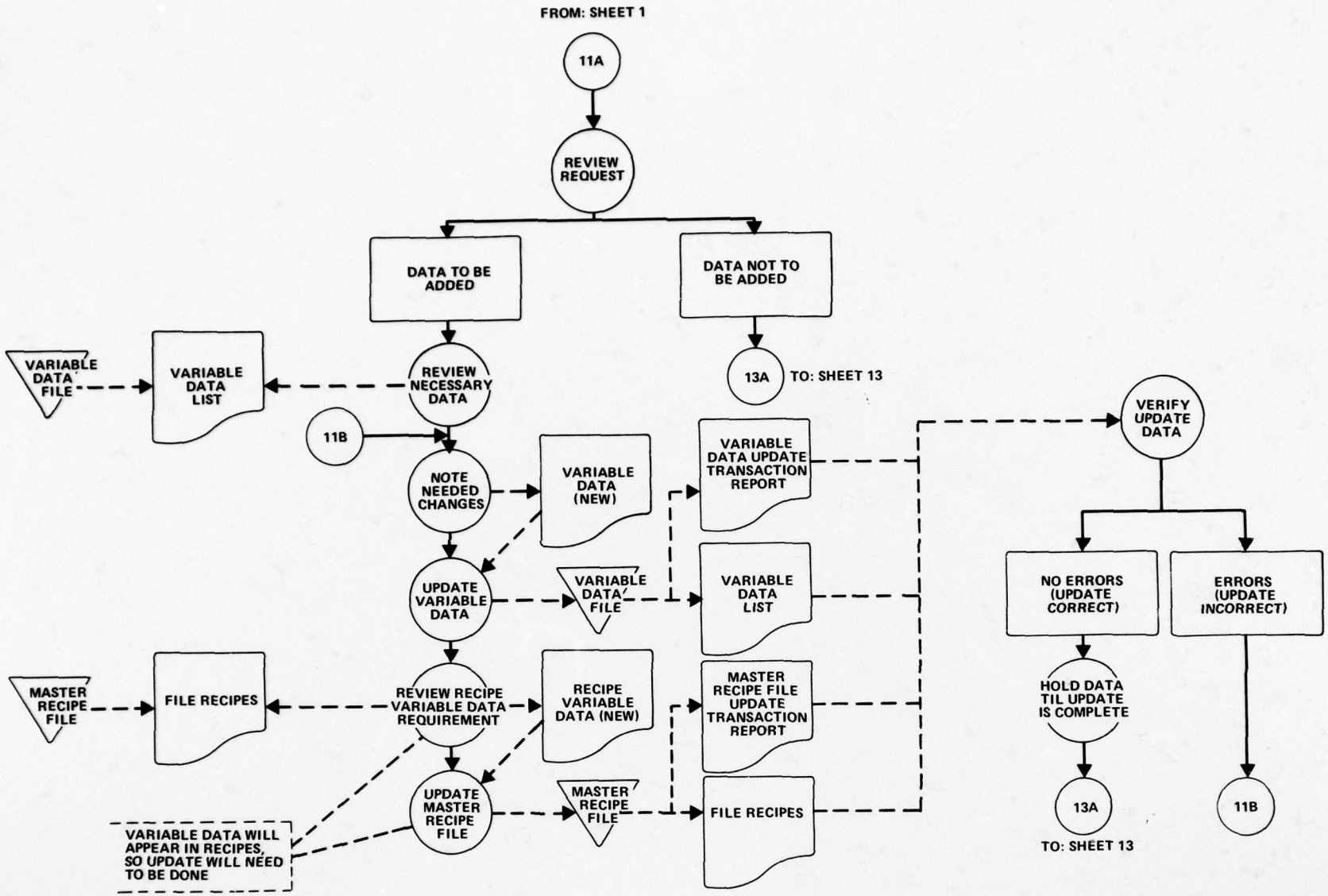
FOOD SERVICE
CENTRAL DATA BASE MAINTENANCE
SHEET 7 OF 13 26 FEB 1975



FOOD SERVICE
CENTRAL DATA
BASE MAINTENANCE
SHEET 9 OF 13 26 FEB 1975

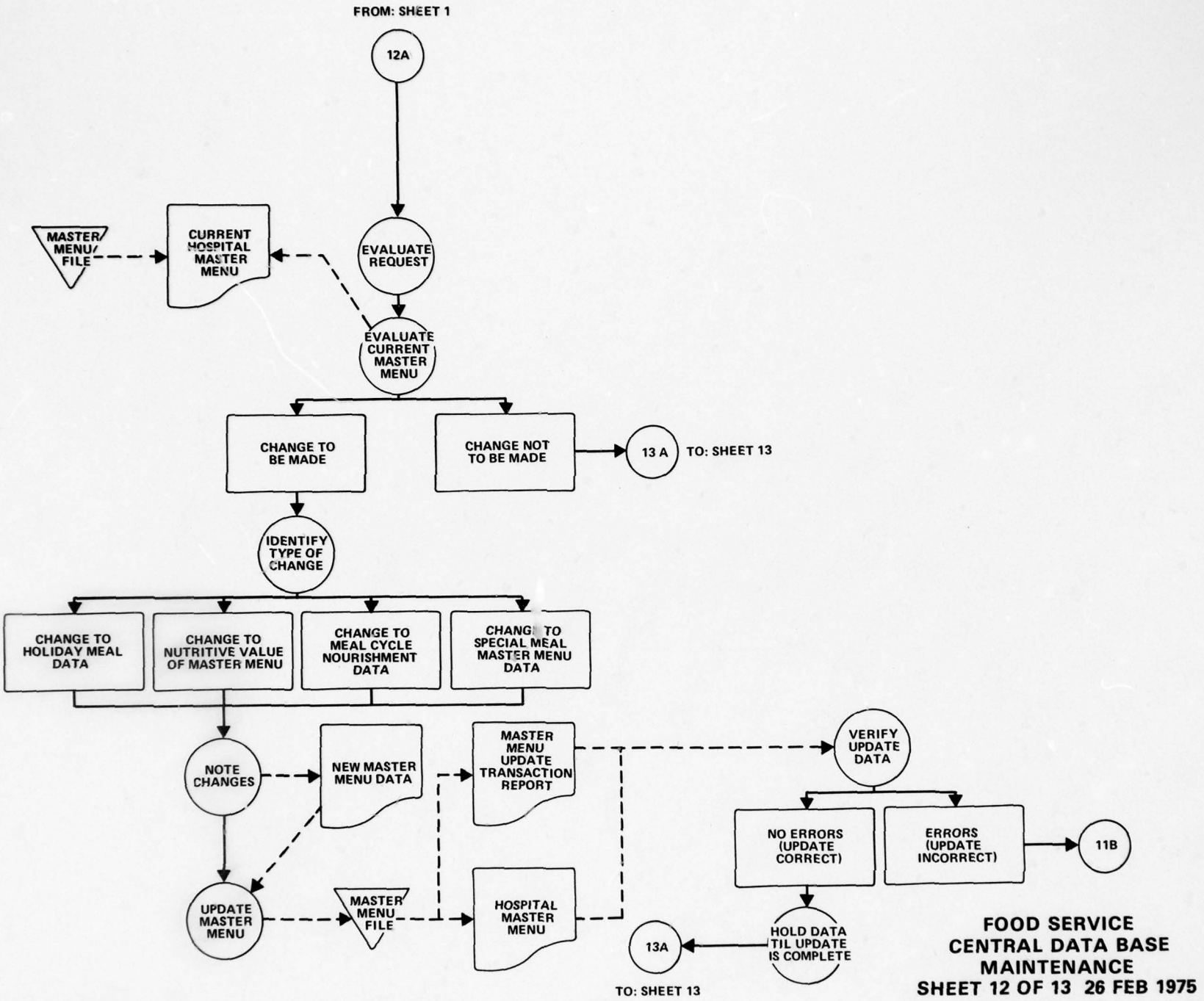


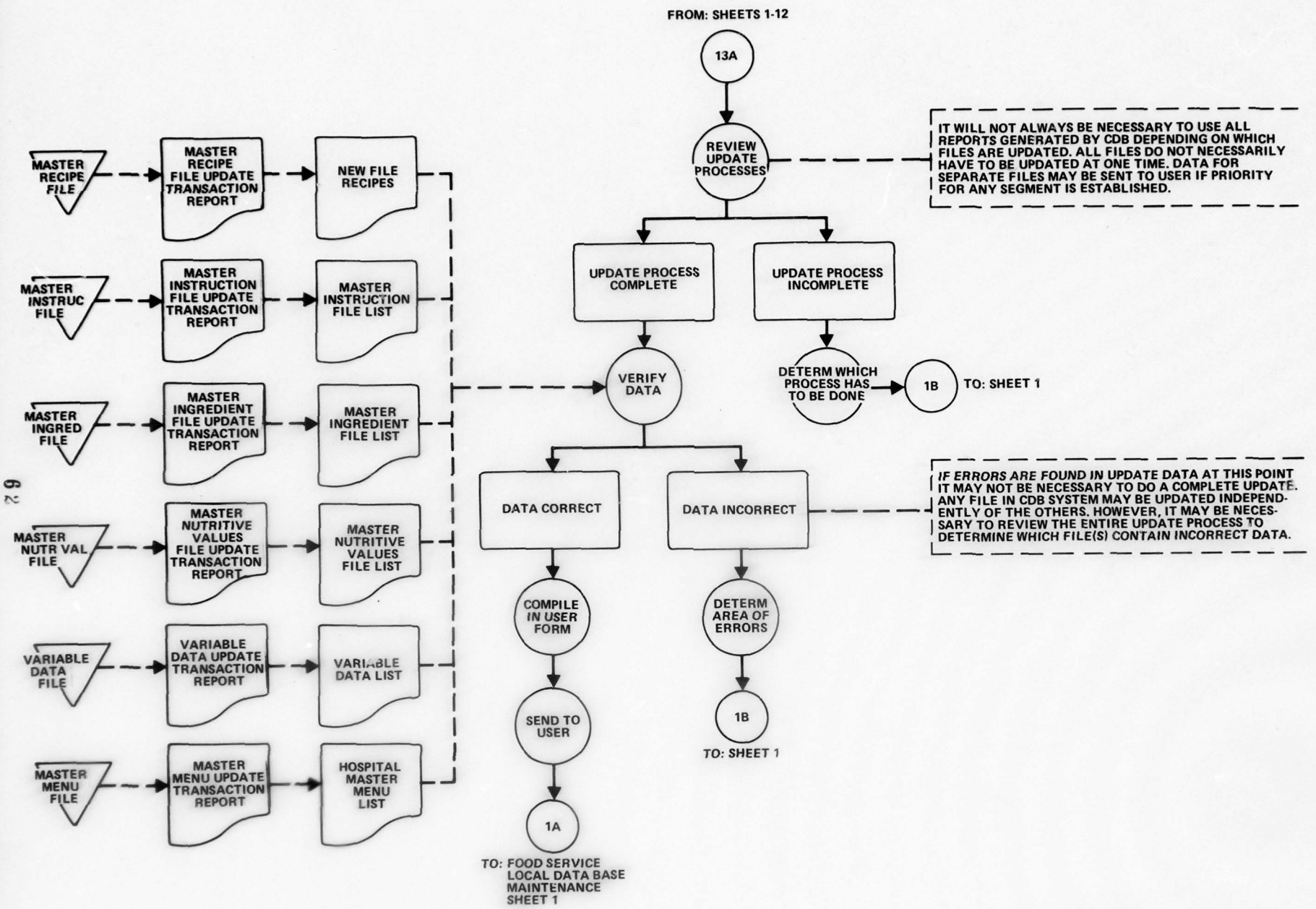
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CENTRAL DATA
BASE MAINTENANCE
SHEET 10 OF 13 26 FEB 1975



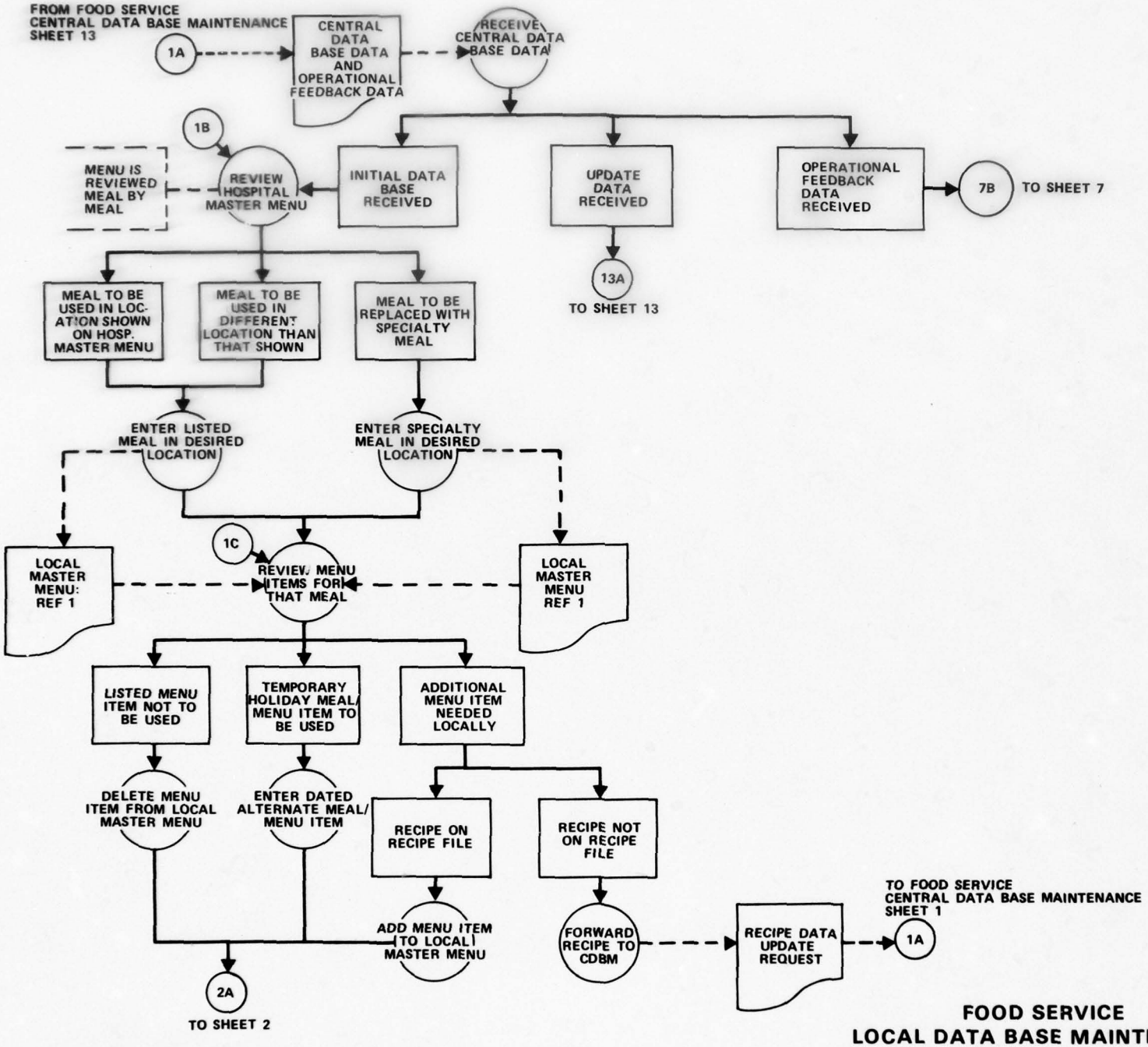
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FOOD SERVICE
CENTRAL DATA BASE MAINTENANCE
SHEET 11 OF 13 26 FEB 1975

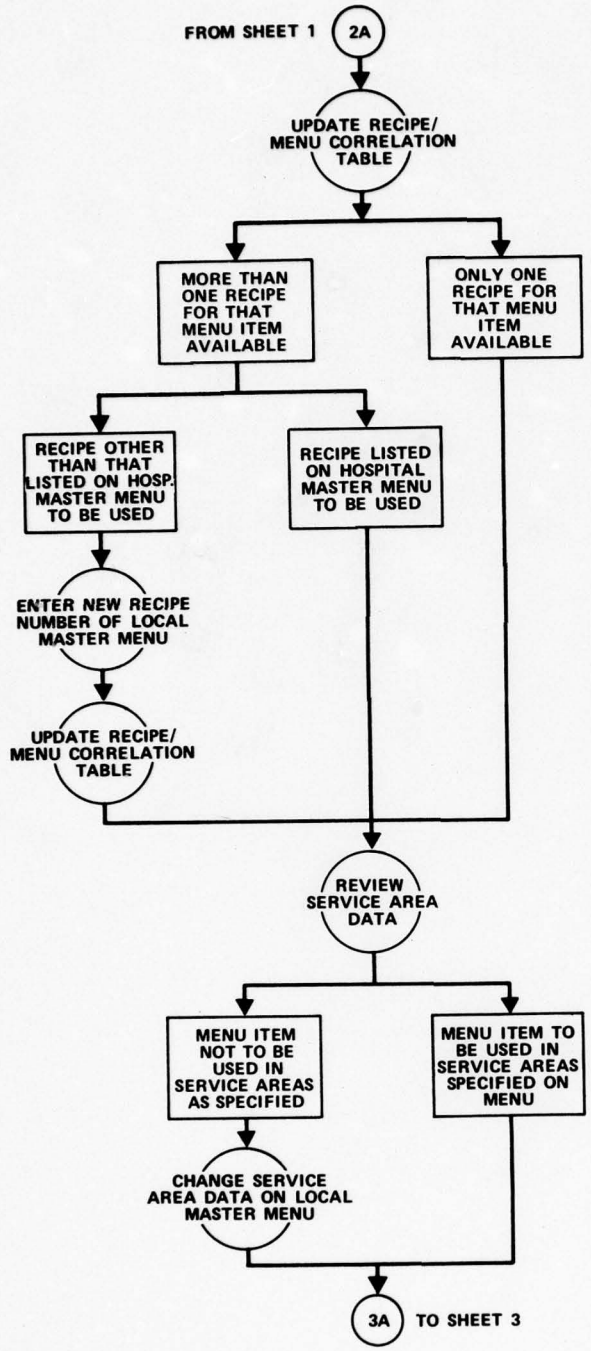

FROM: SHEET 1
12A
MASTER MENU FILE
CURRENT HOSPITAL MASTER MENU
EVALUATE REQUEST
EVALUATE CURRENT MASTER MENU
CHANGE TO BE MADE
CHANGE NOT TO BE MADE
13 A
TO: SHEET 13
IDENTIFY TYPE OF CHANGE
CHANGE TO HOLIDAY MEAL DATA
CHANGE TO NUTRITIVE VALUE OF MASTER MENU
CHANGE TO MEAL CYCLE NOURISHMENT DATA
CHANGE TO SPECIAL MEAL MASTER MENU DATA
NOTE CHANGES
NEW MASTER MENU DATA
MASTER MENU UPDATE TRANSACTION REPORT
VERIFY UPDATE DATA
NO ERRORS (UPDATE CORRECT)
ERRORS (UPDATE INCORRECT)
11B
UPDATE MASTER MENU
MASTER MENU FILE
HOSPITAL MASTER MENU
HOLD DATA TIL UPDATE IS COMPLETE
13A
TO: SHEET 13
FOOD SERVICE
CENTRAL DATA BASE
MAINTENANCE
SHEET 12 OF 13 26 FEB 1975



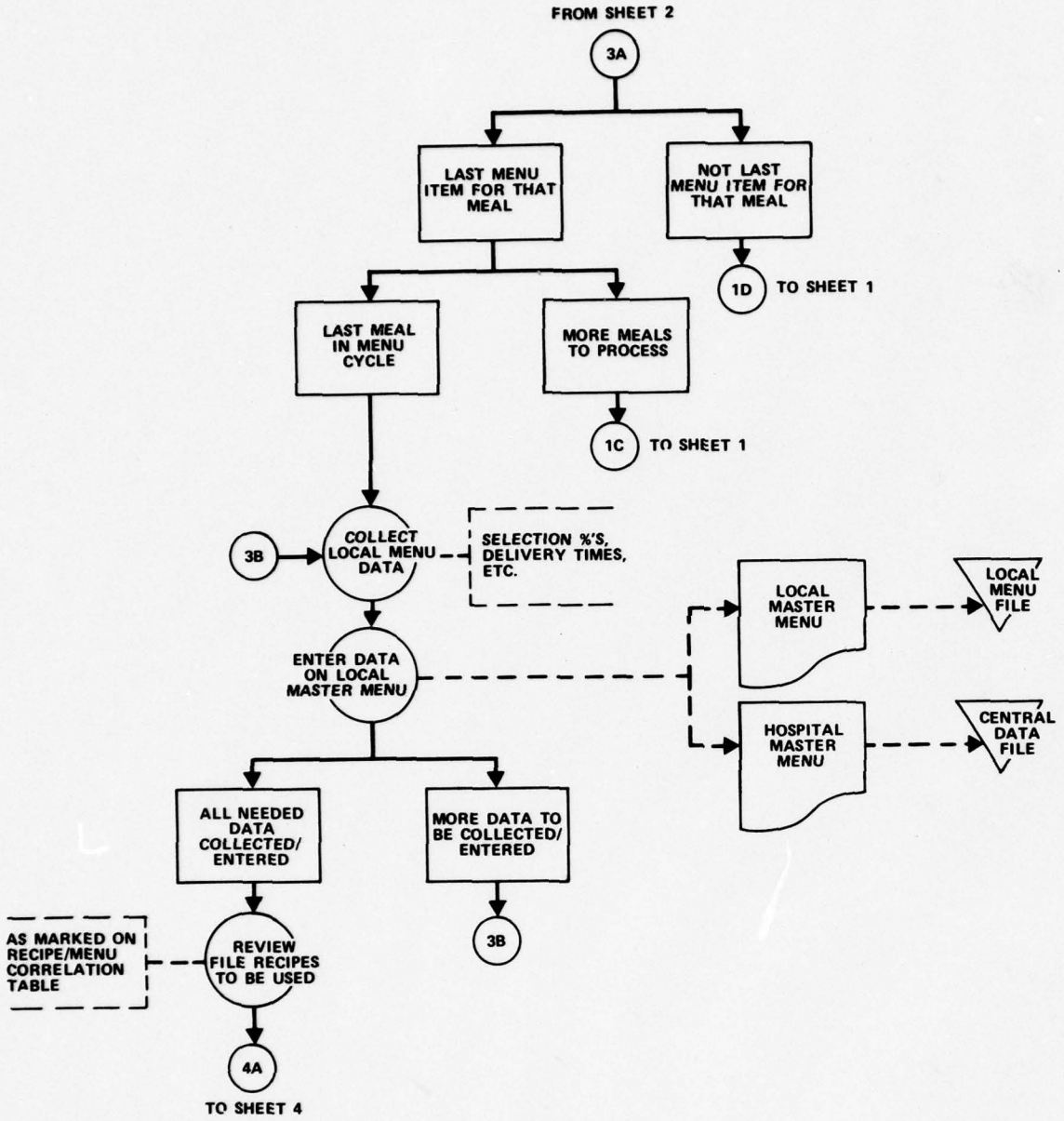
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CENTRAL DATA BASE MAINTENANCE
SHEET 13 OF 13 26 FEB 1975



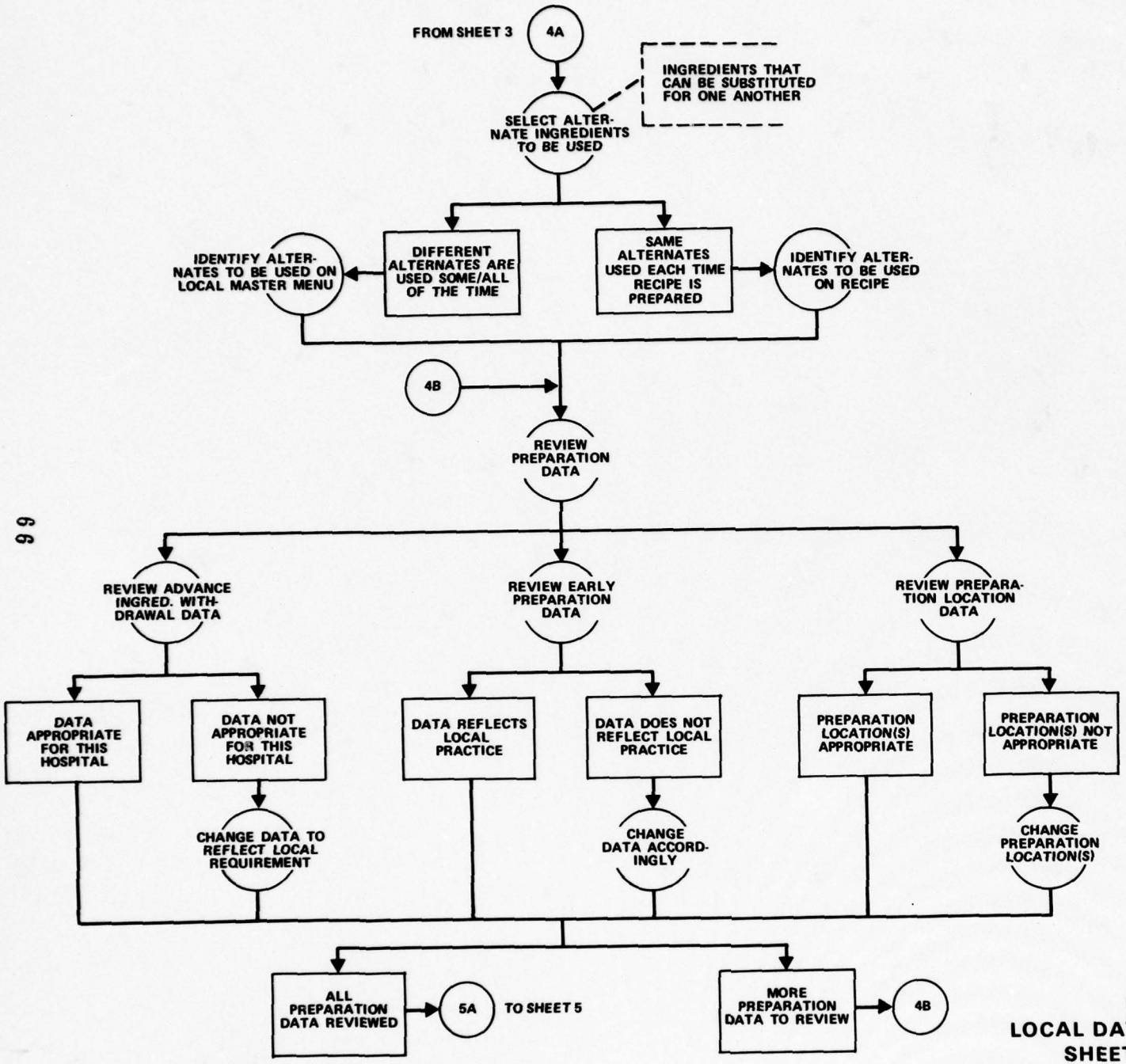
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LOCAL DATA BASE MAINTENANCE
SHEET 1 OF 15 18 FEB 75



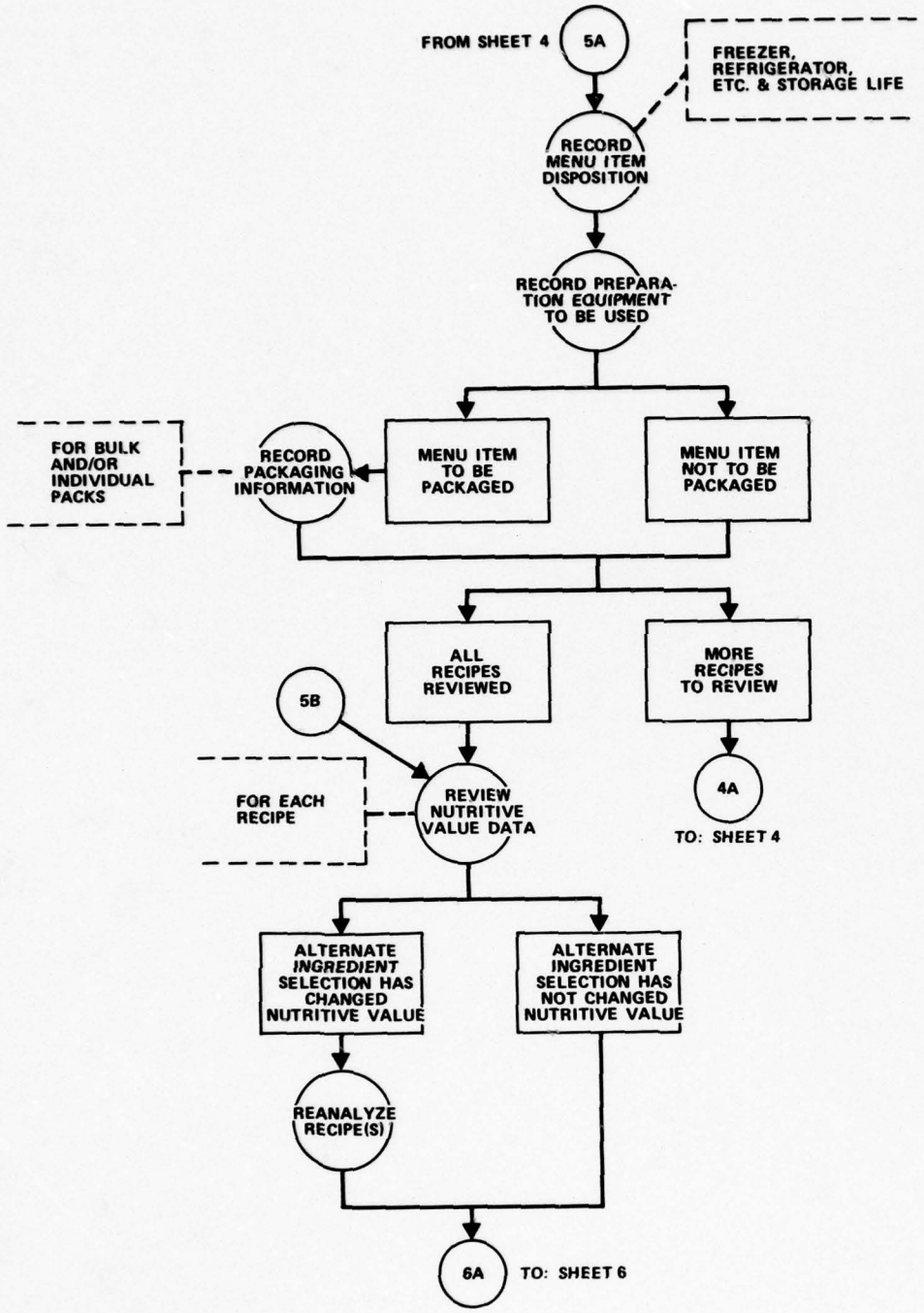
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LOCAL DATA BASE MAINTENANCE
SHEET 2 OF 15 18 FEB 75



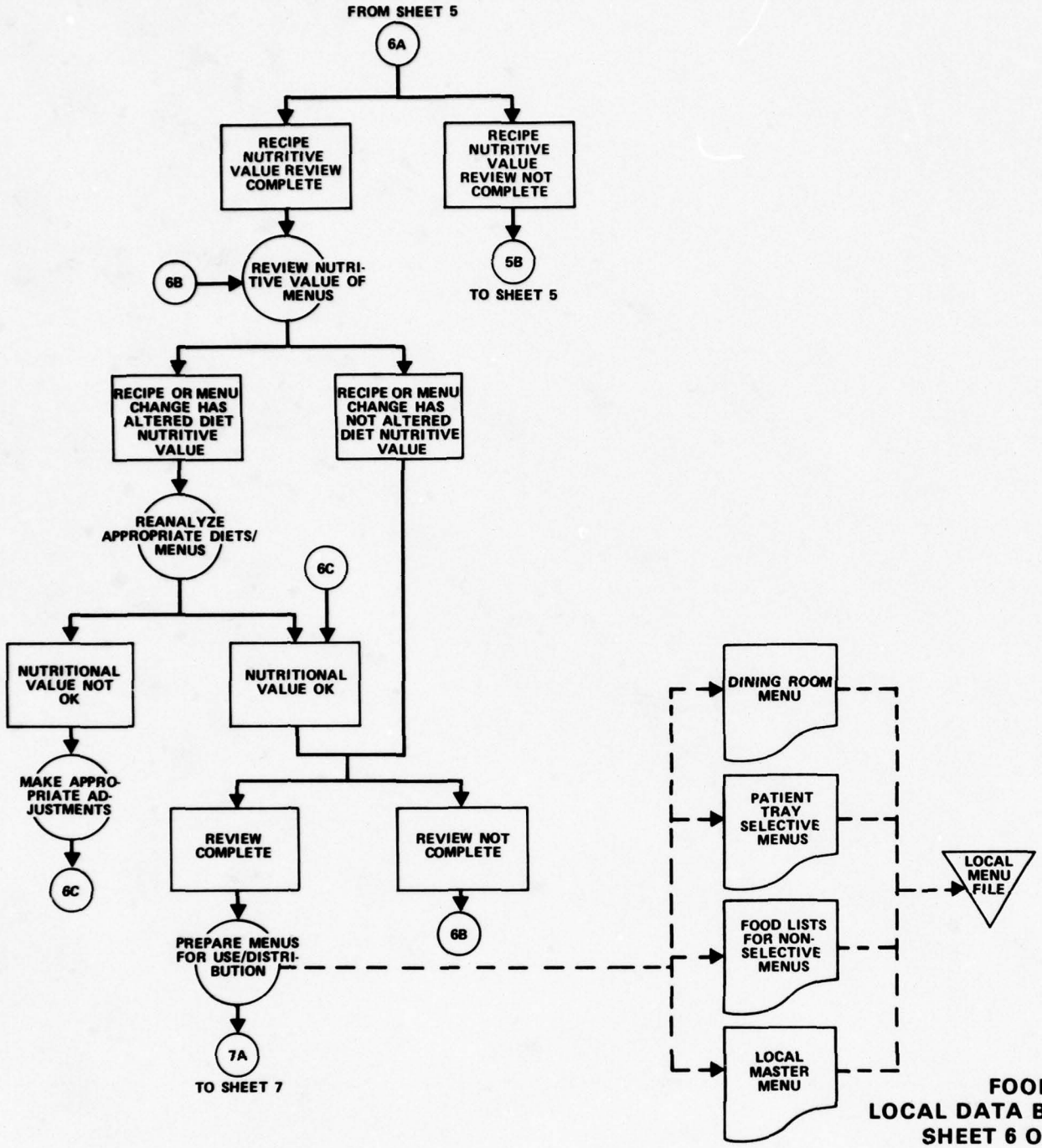
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LOCAL DATA BASE MAINTENANCE
SHEET 3 OF 15 18 FEB 75



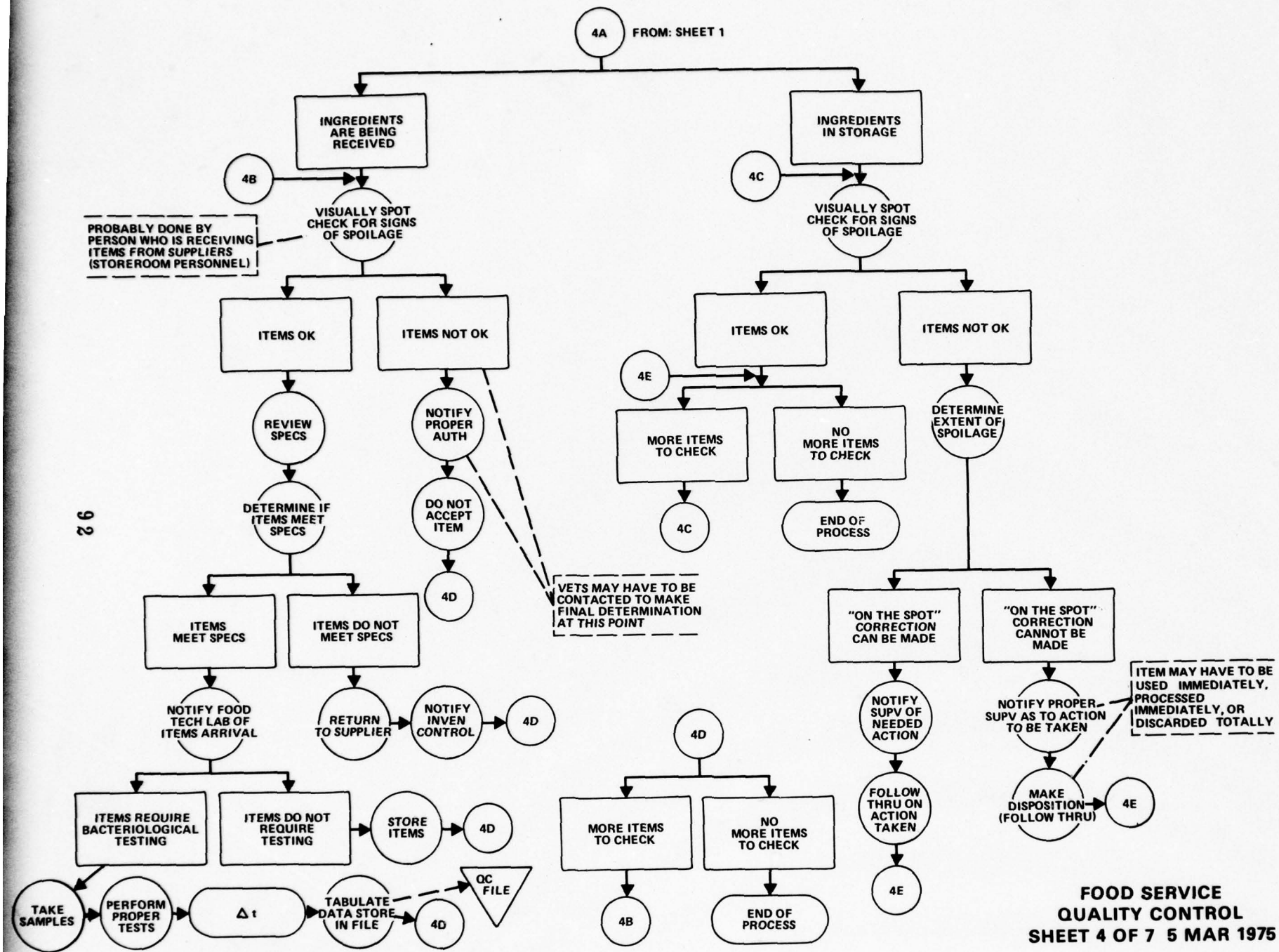
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LOCAL DATA BASE MAINTENANCE
SHEET 4 OF 15 18 FEB 75



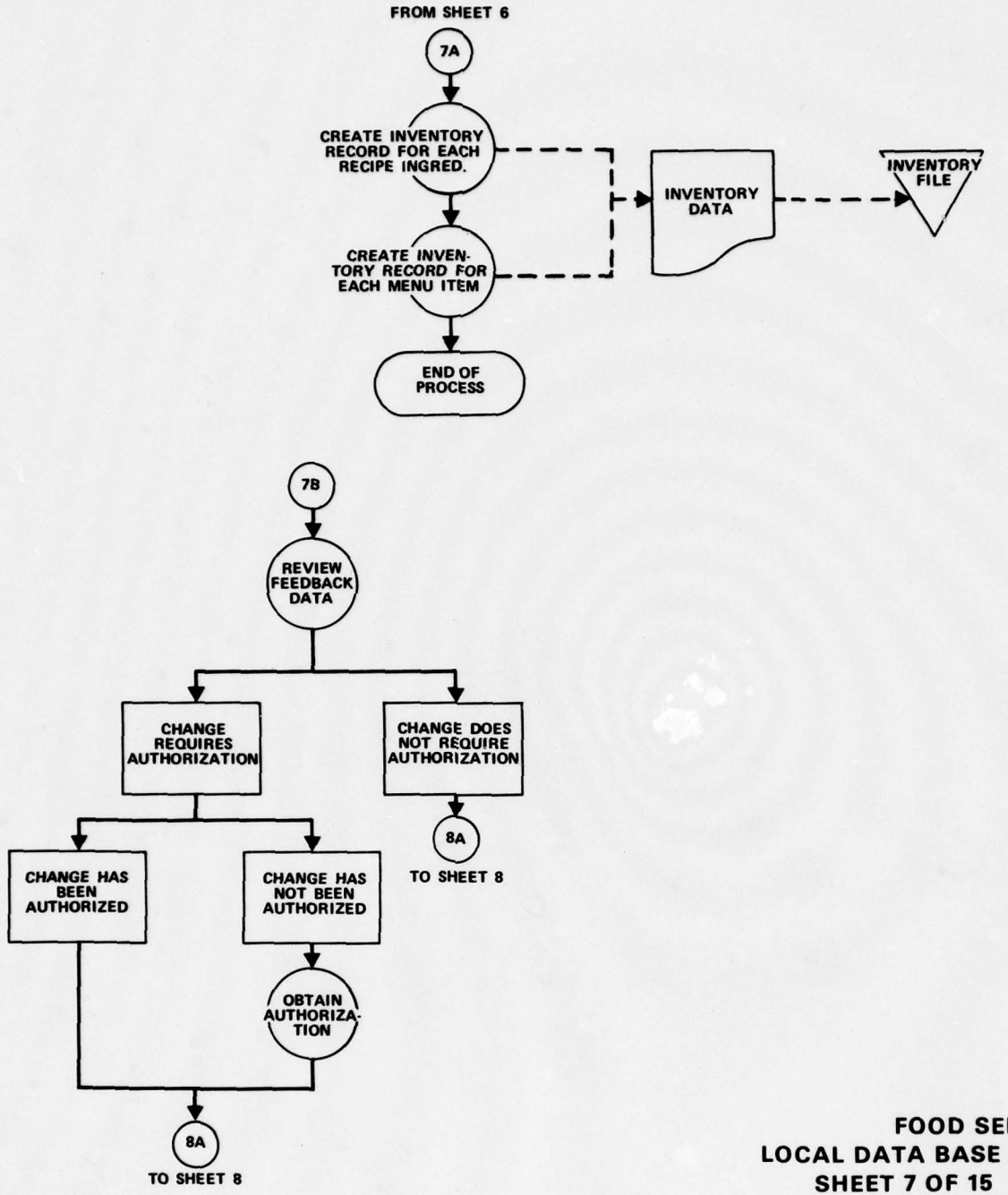
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LOCAL DATA BASE MAINTENANCE
SHEET 5 OF 15 18 FEB 75



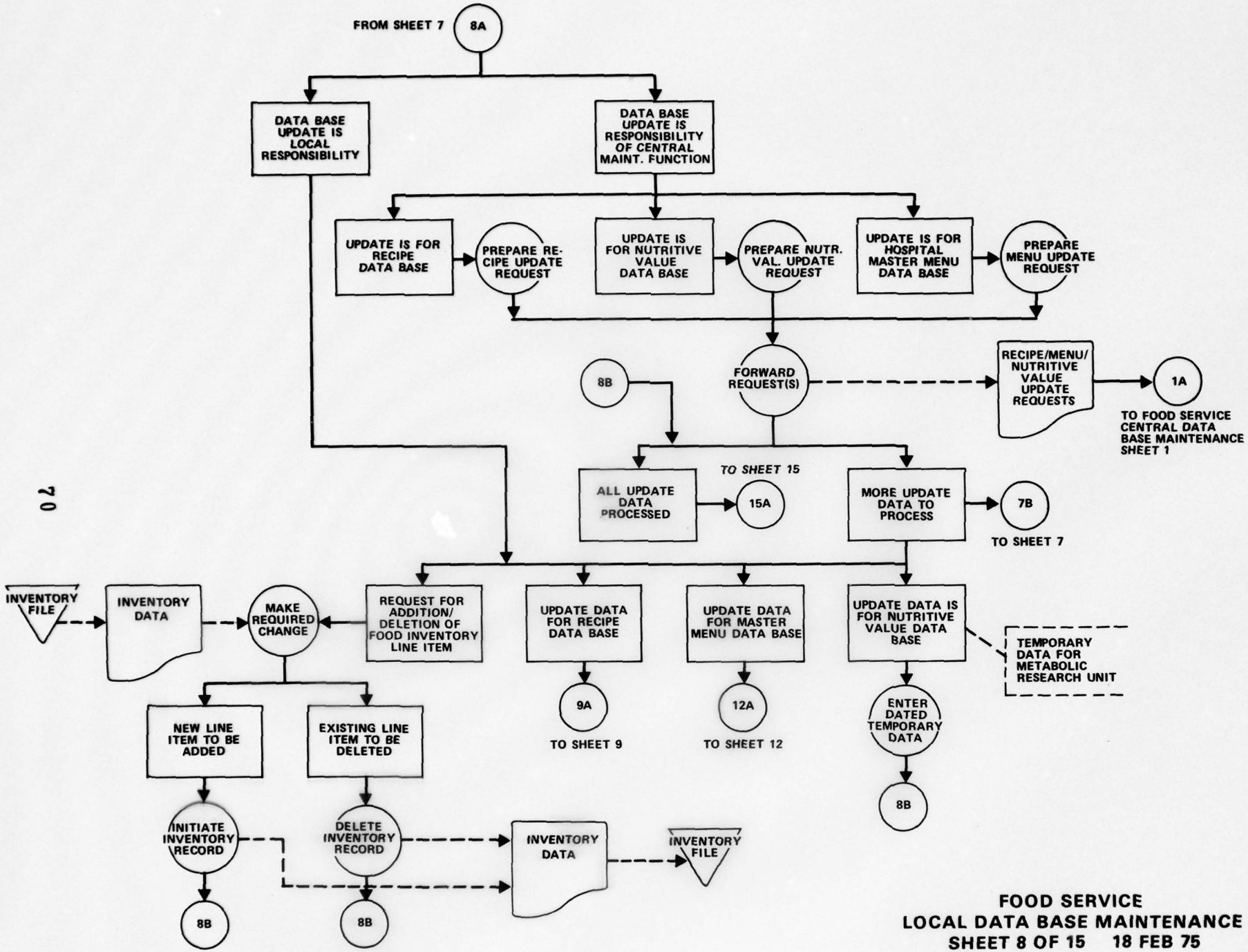
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LOCAL DATA BASE MAINTENANCE
SHEET 6 OF 15 18 FEB 75



FOOD SERVICE QUALITY CONTROL
SHEET 4 OF 7 5 MAR 1975

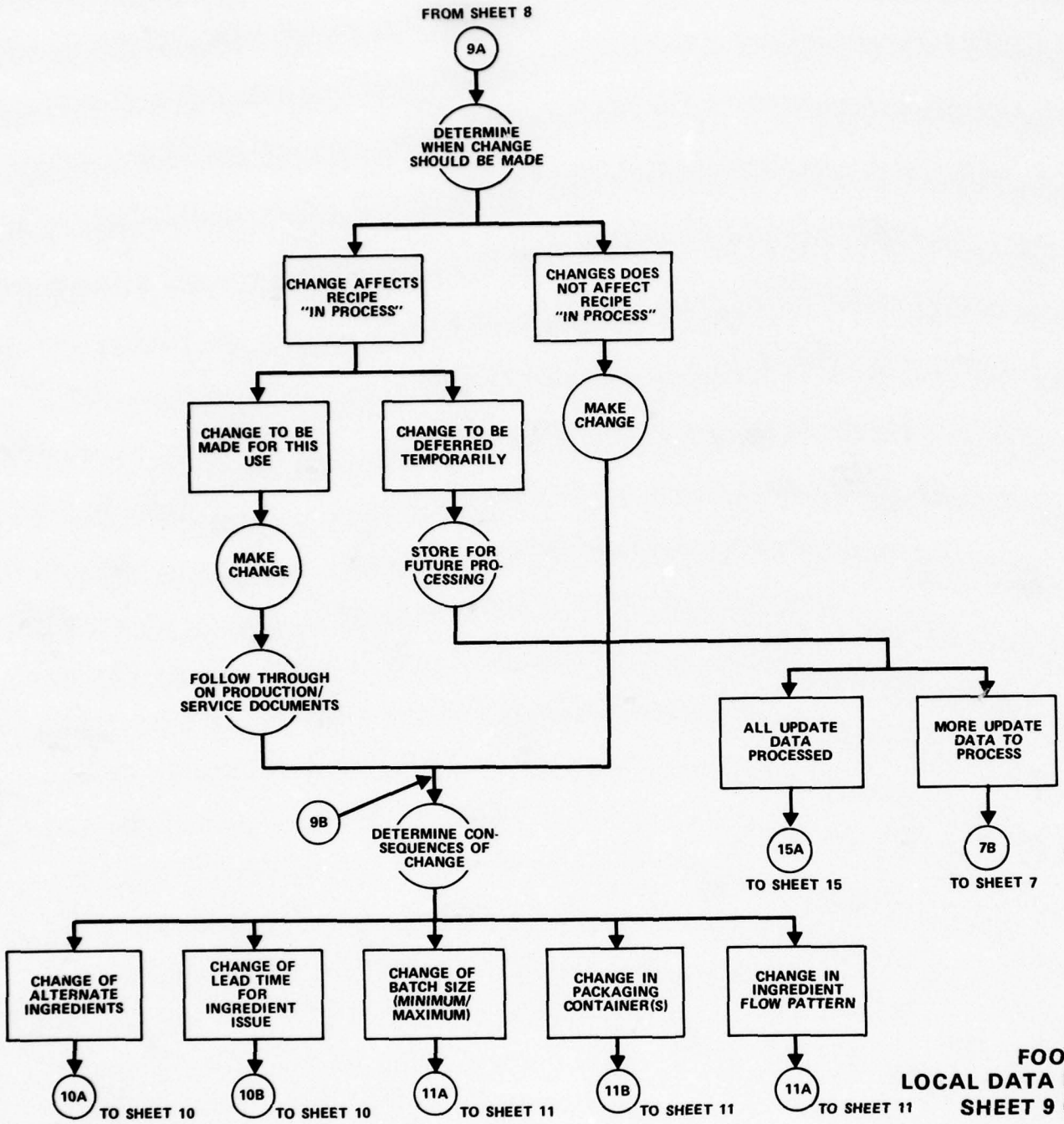


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LOCAL DATA BASE MAINTENANCE
SHEET 7 OF 15 18 FEB 75

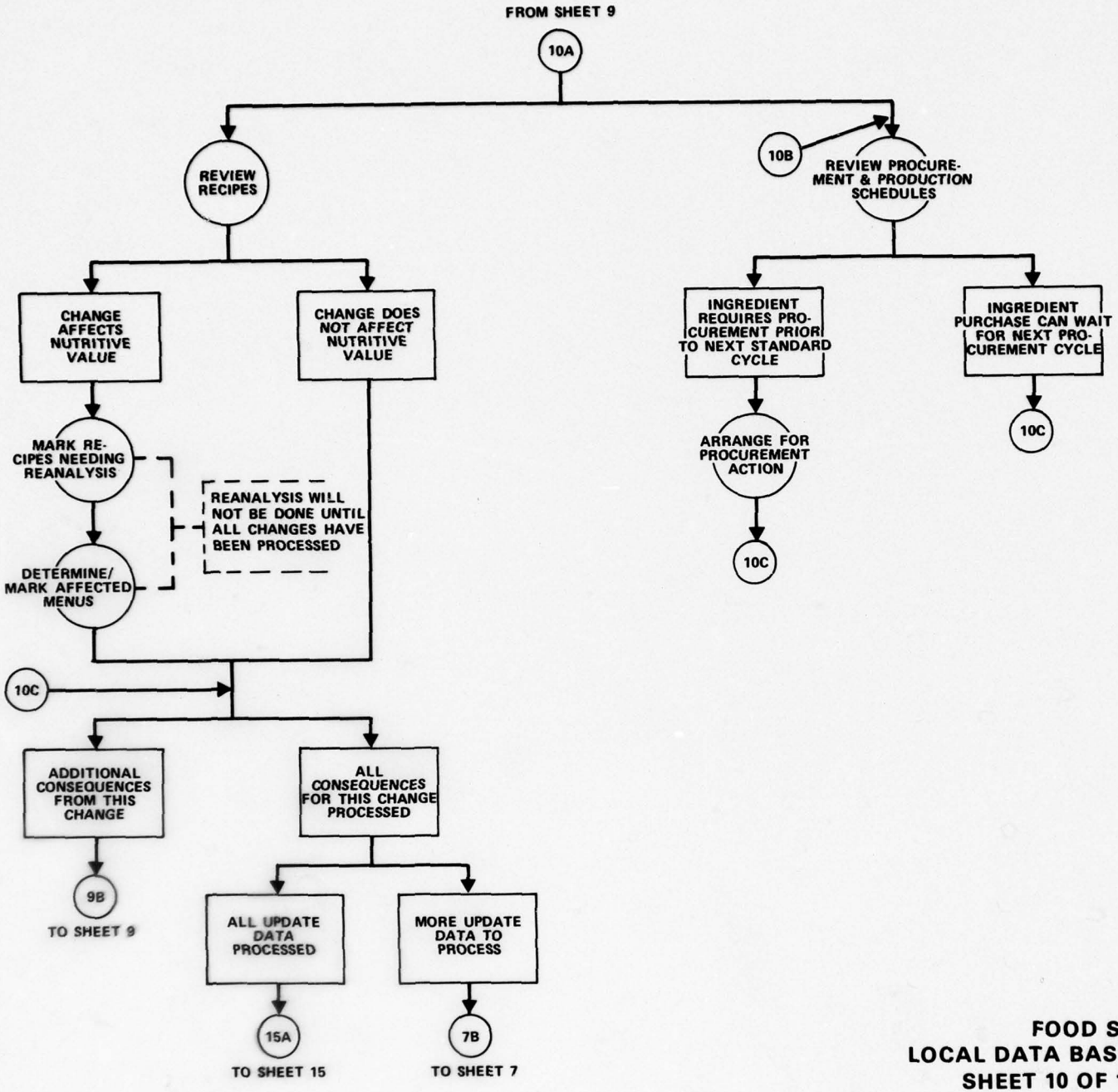


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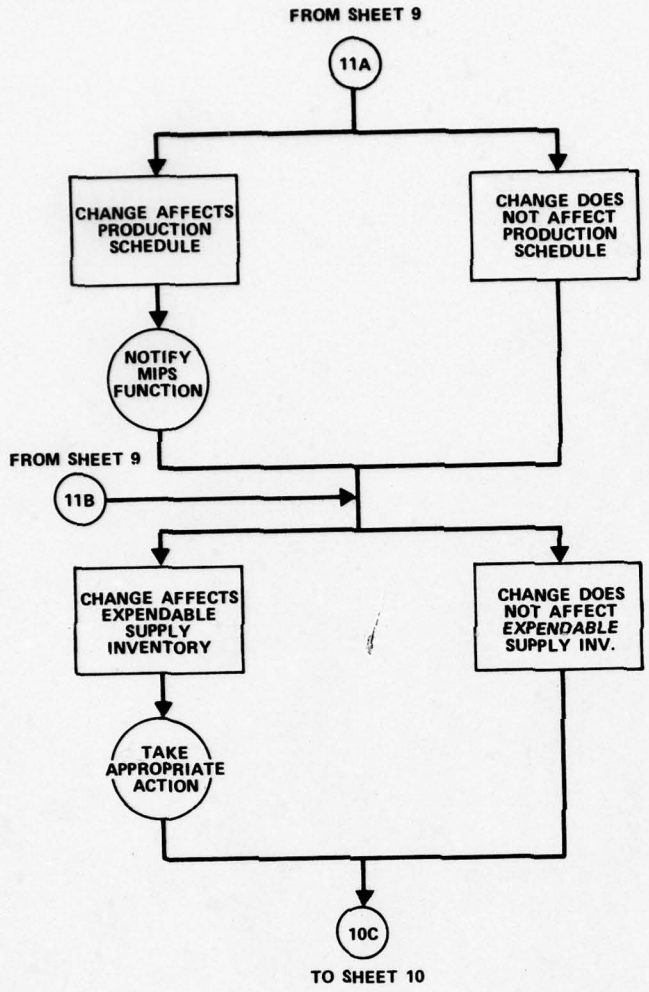
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LOCAL DATA BASE MAINTENANCE
SHEET 8 OF 15 18 FEB 75



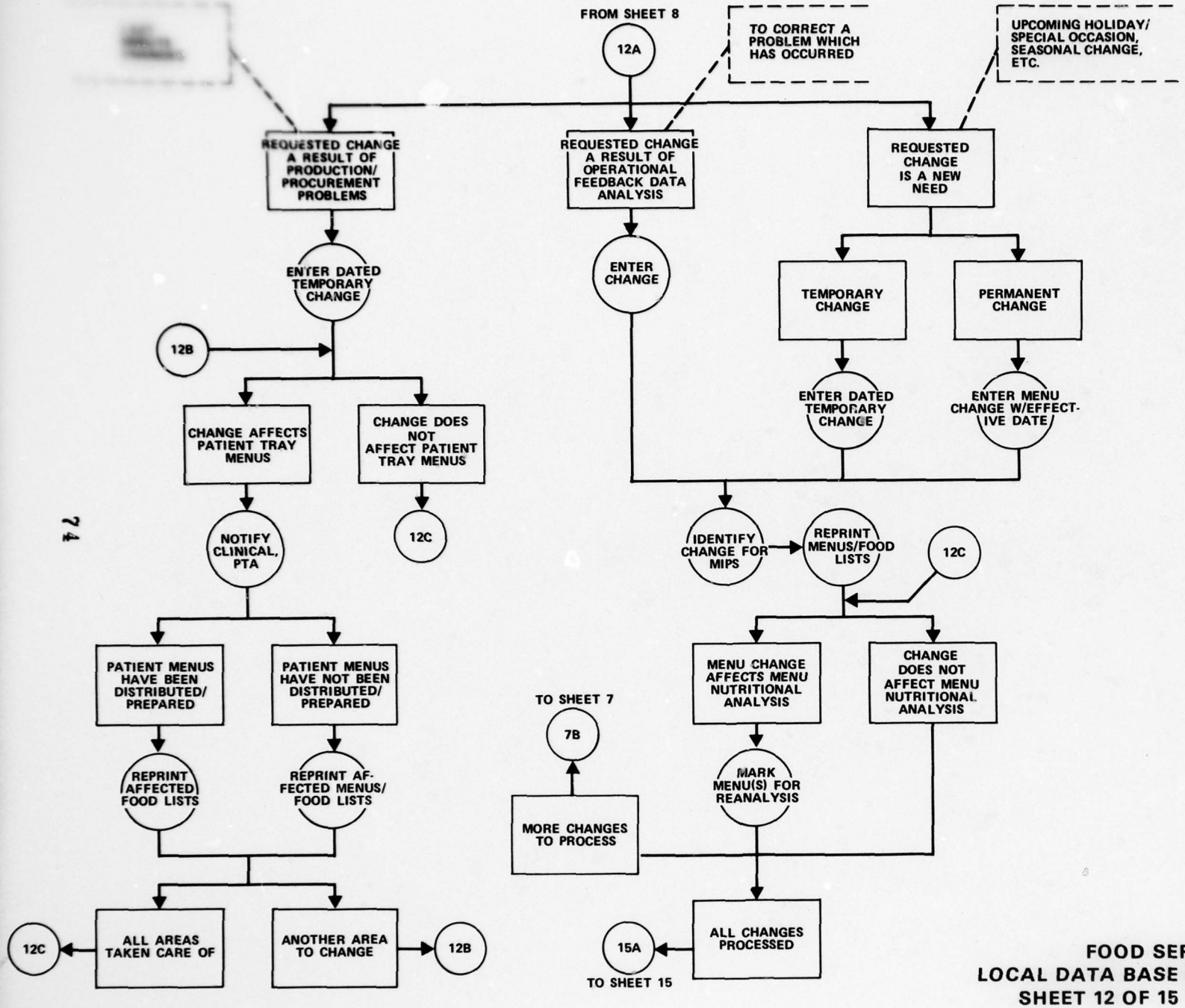
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LOCAL DATA BASE MAINTENANCE
SHEET 9 OF 15 18 FEB 75



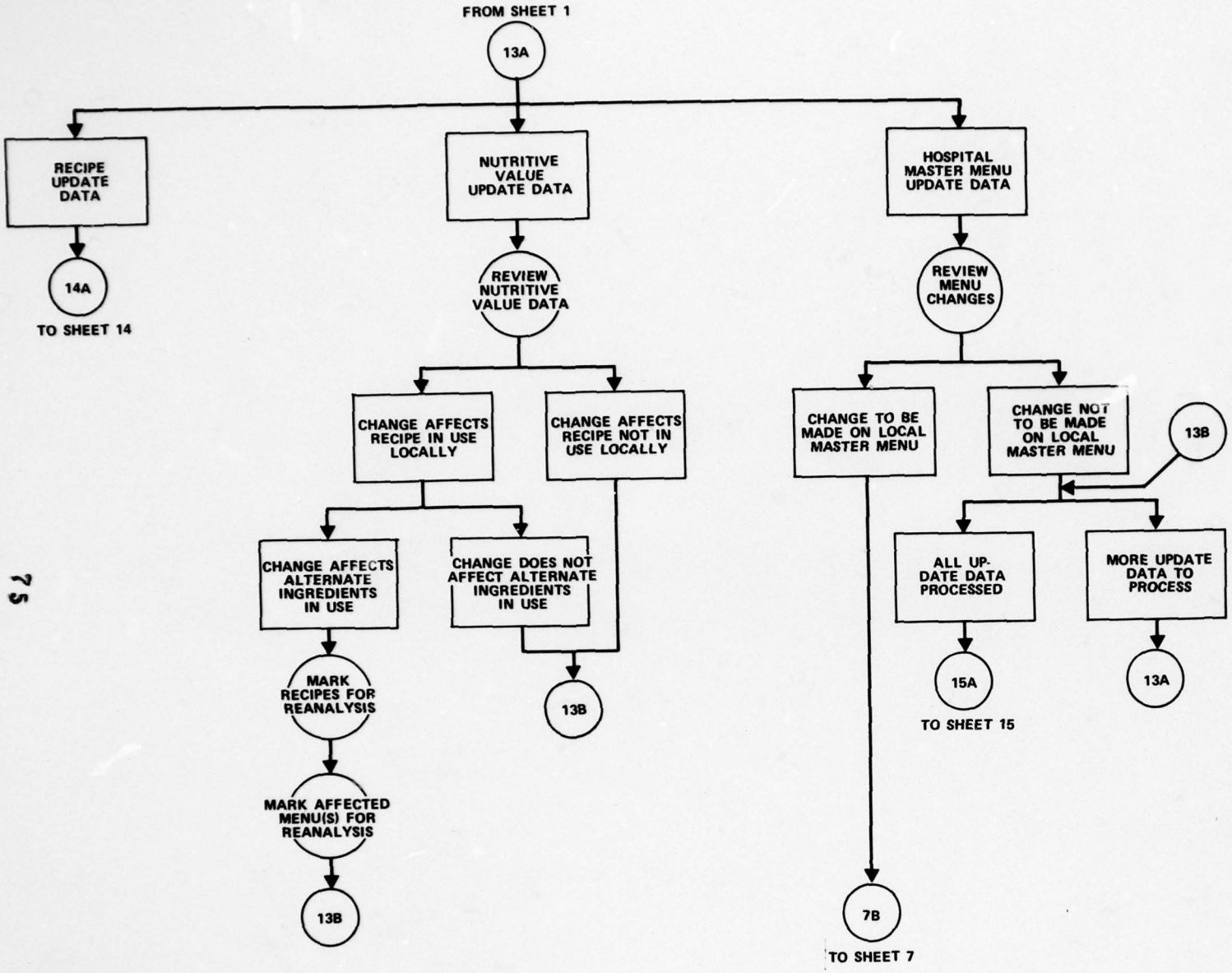
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SHEET 10 OF 15 18 FEB 75



FOOD SERVICE
LOCAL DATA BASE MAINTENANCE
SHEET 11 OF 15 18 FEB 75

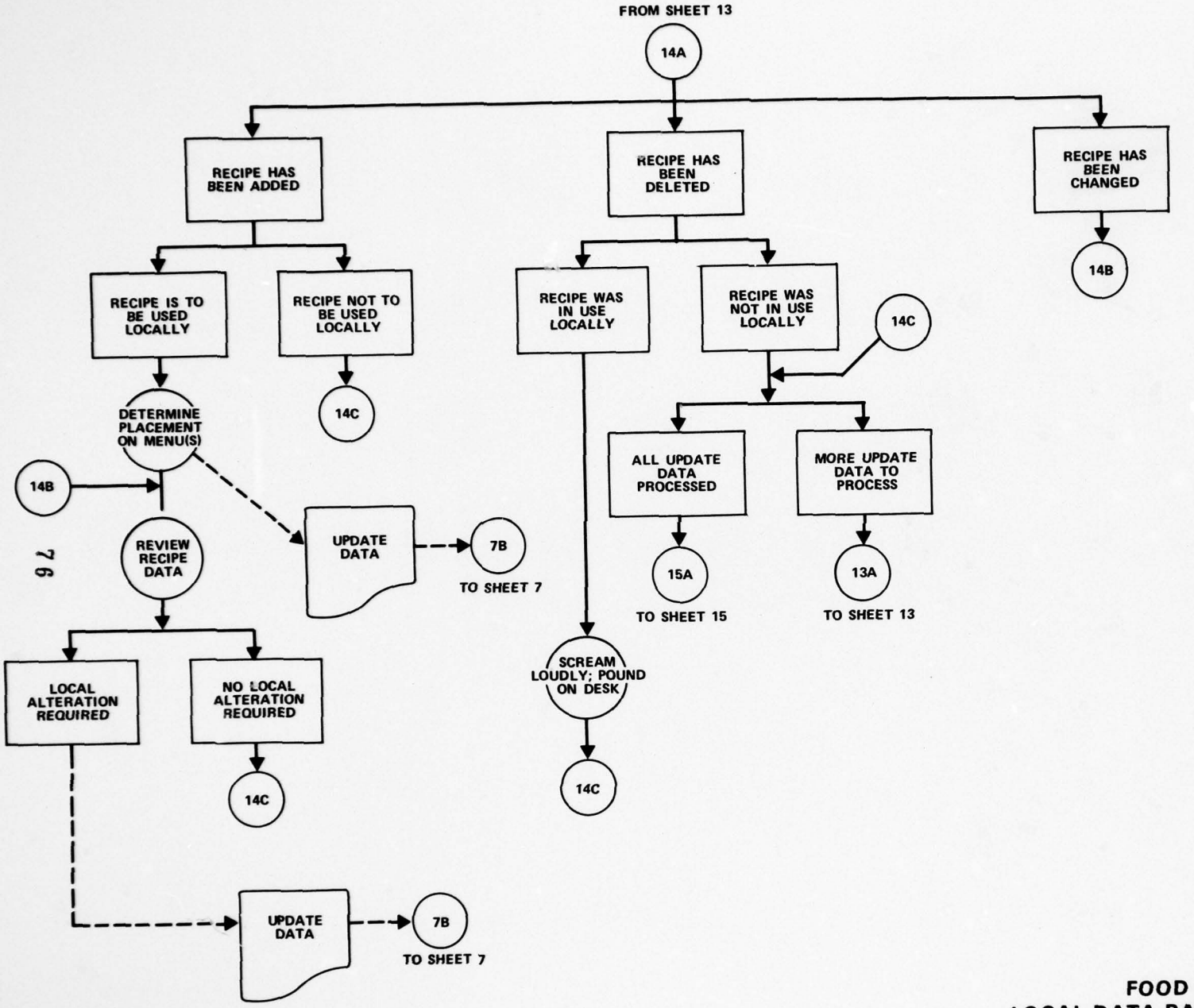


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LOCAL DATA BASE MAINTENANCE
SHEET 12 OF 15 18 FEB 75

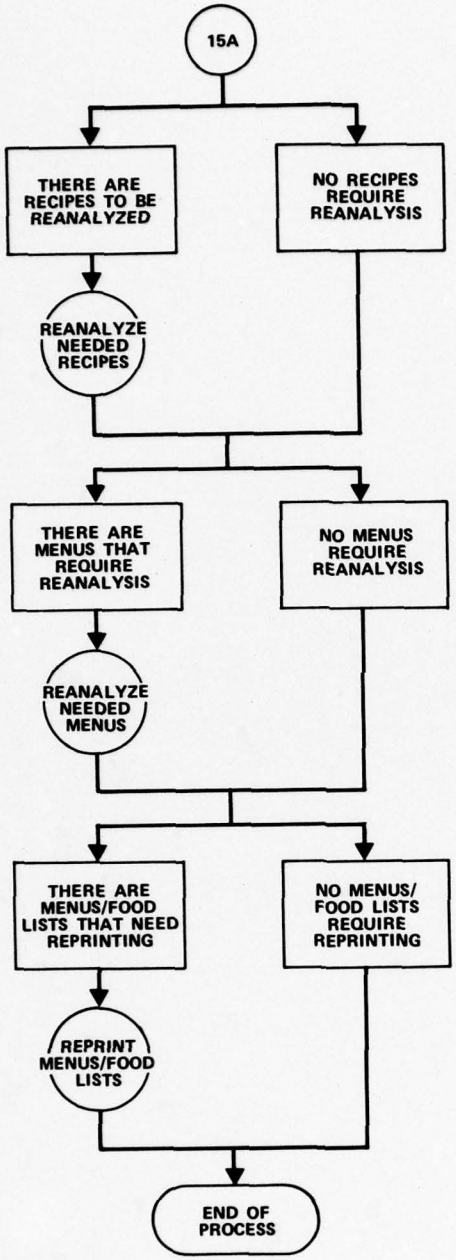


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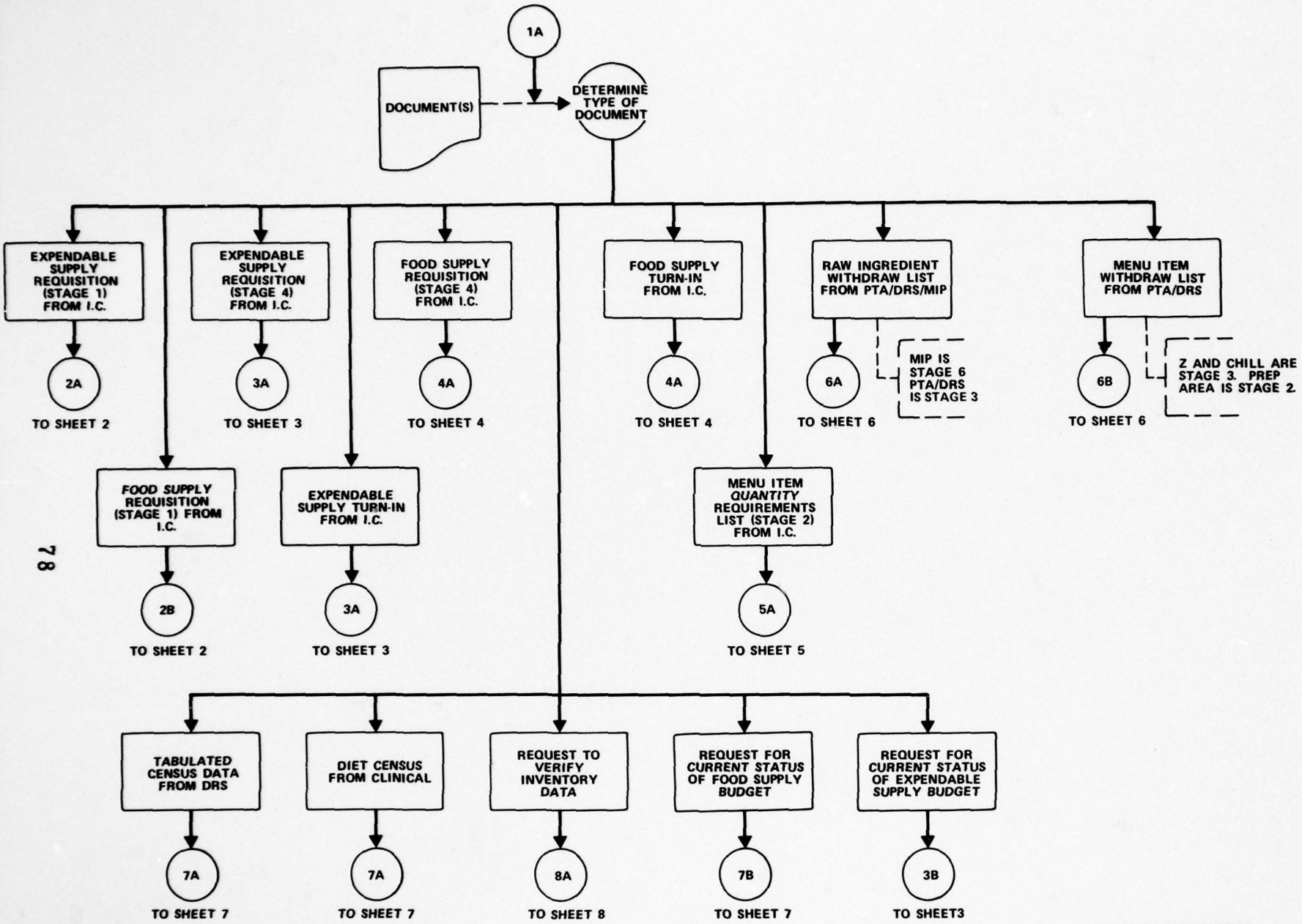
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LOCAL DATA BASE MAINTENANCE
SHEET 13 OF 15 18 FEB 75



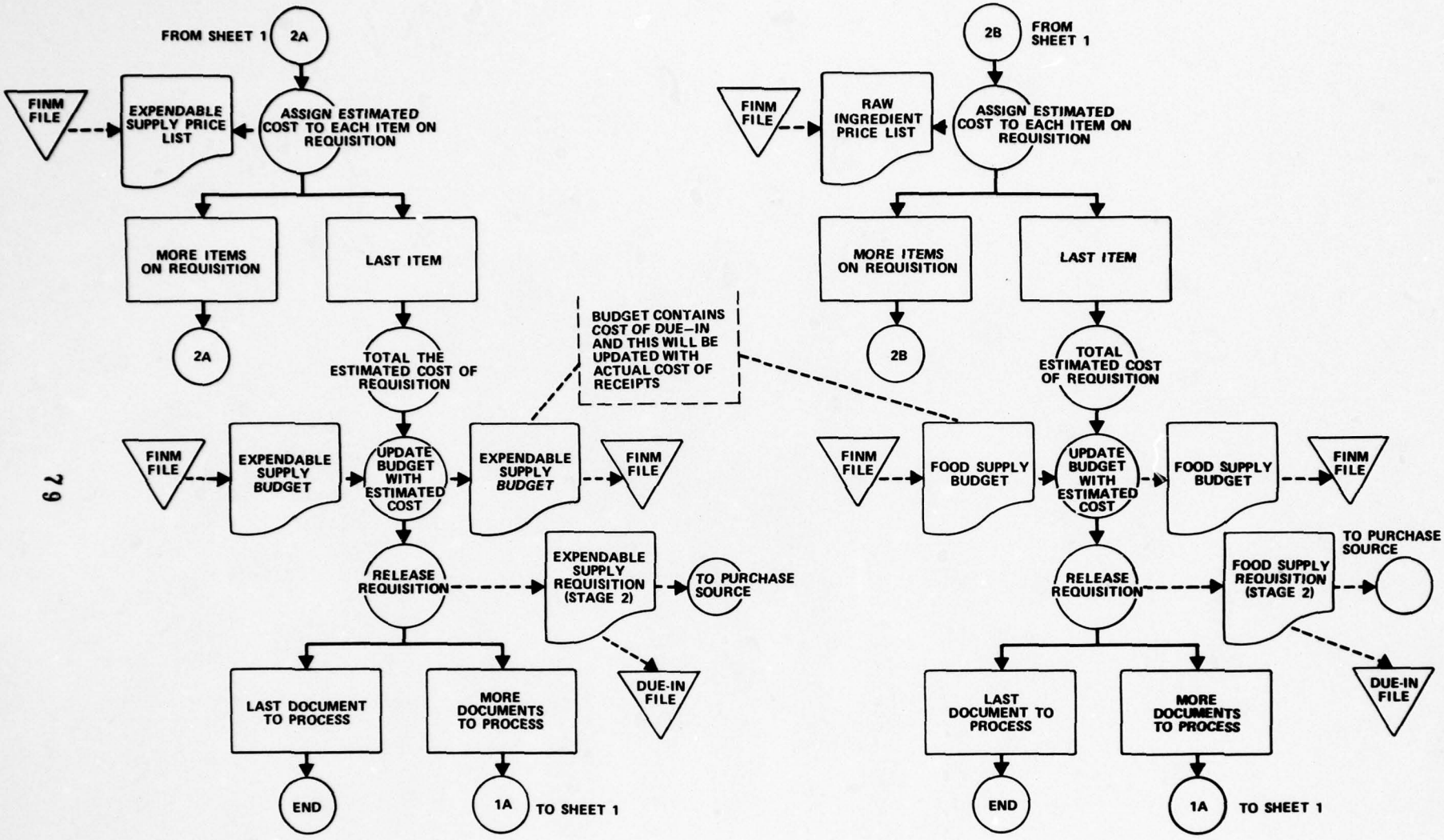
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LOCAL DATA BASE MAINTENANCE
SHEET 14 OF 15 18 FEB 75



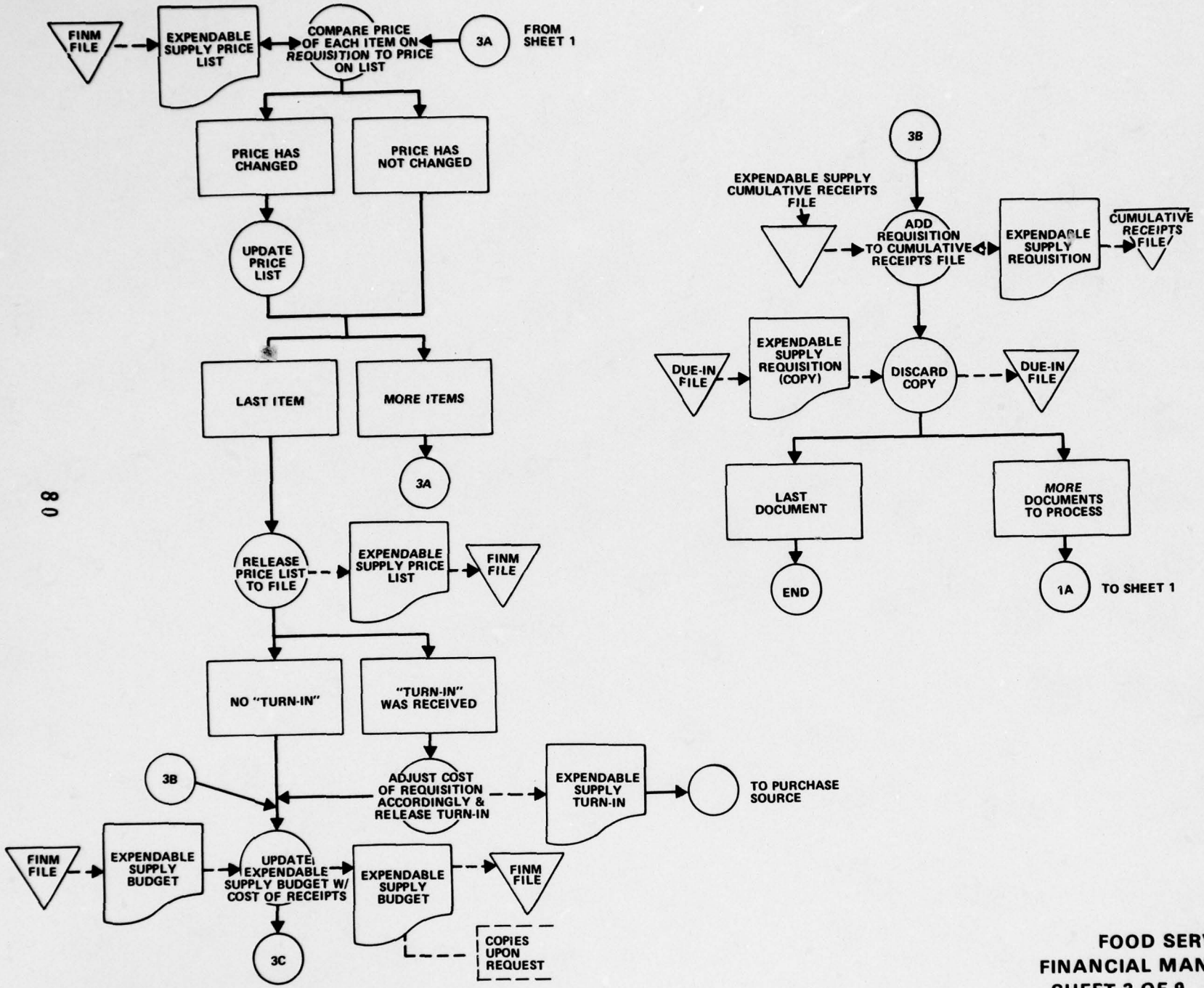
FOOD SERVICE
LOCAL DATA BASE MAINTENANCE
SHEET 15 OF 15 18 FEB 75



FOOD SERVICE
FINANCIAL MANAGEMENT
SHEET 1 OF 9 4 MAR 75

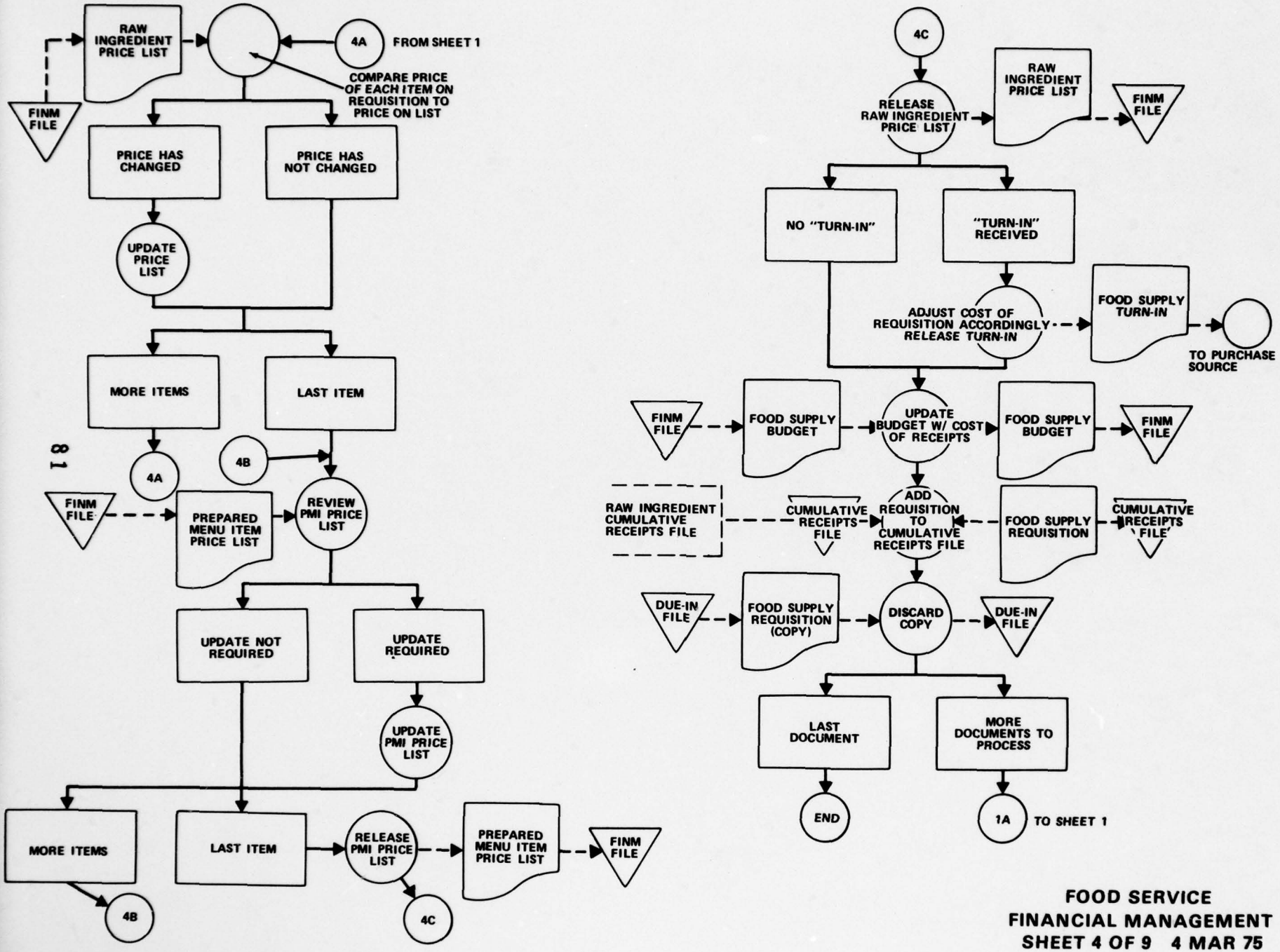


FOOD SERVICE
FINANCIAL MANAGEMENT
SHEET 2 OF 9 4 MAR 75

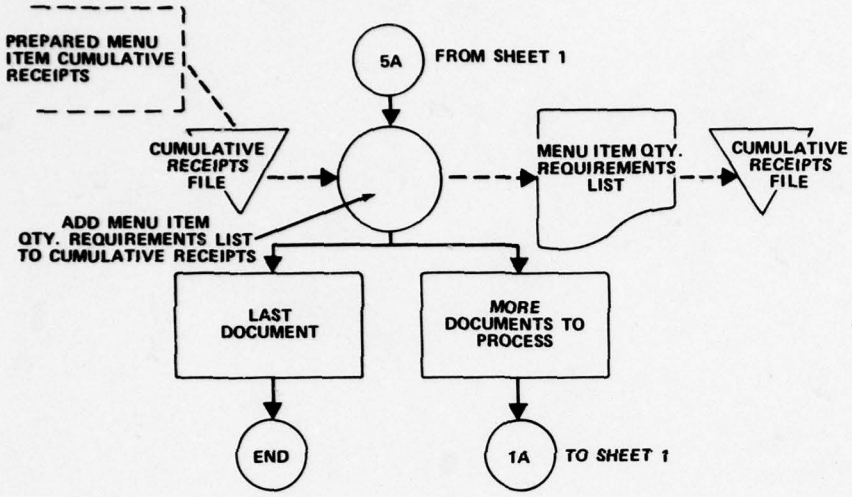


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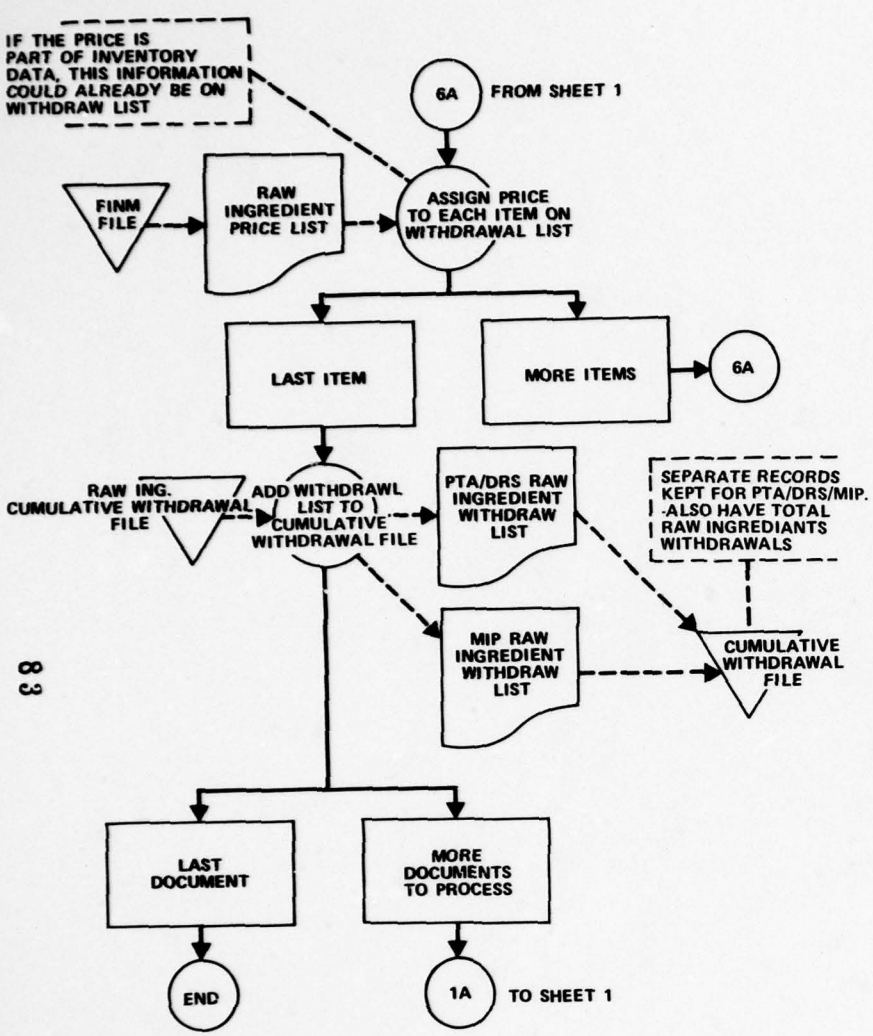
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FINANCIAL MANAGEMENT
SHEET 3 OF 9 4 MAR 75

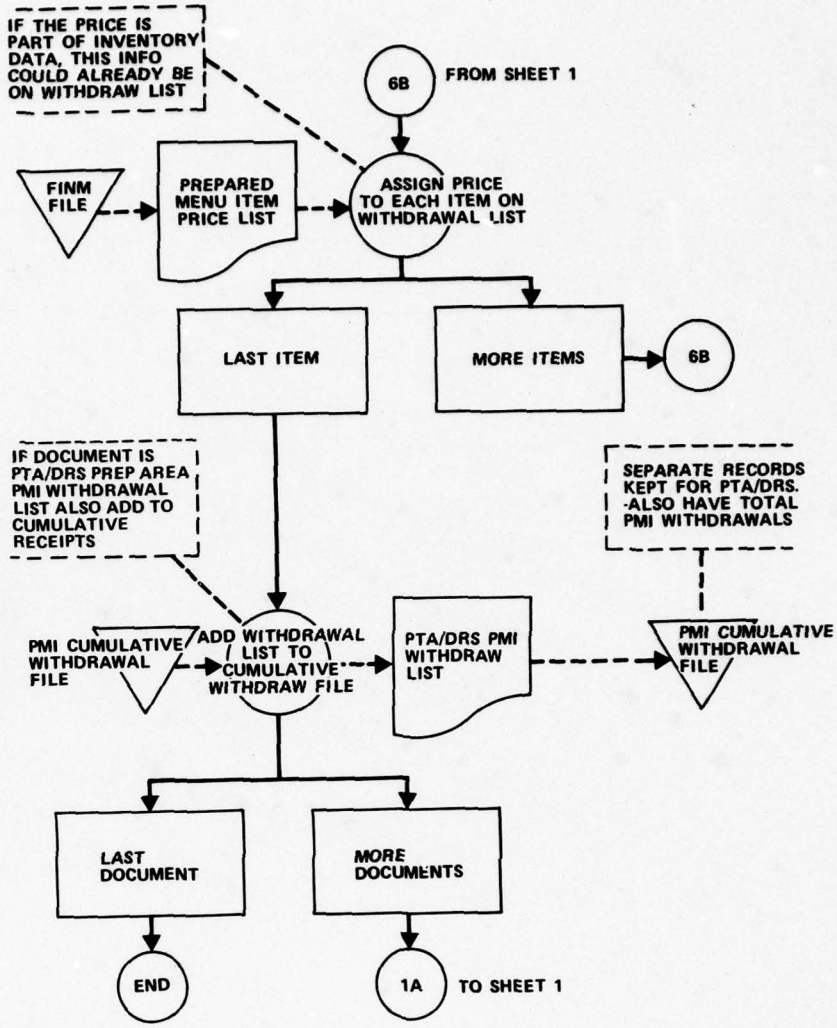


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FINANCIAL MANAGEMENT
SHEET 4 OF 9 4 MAR 75

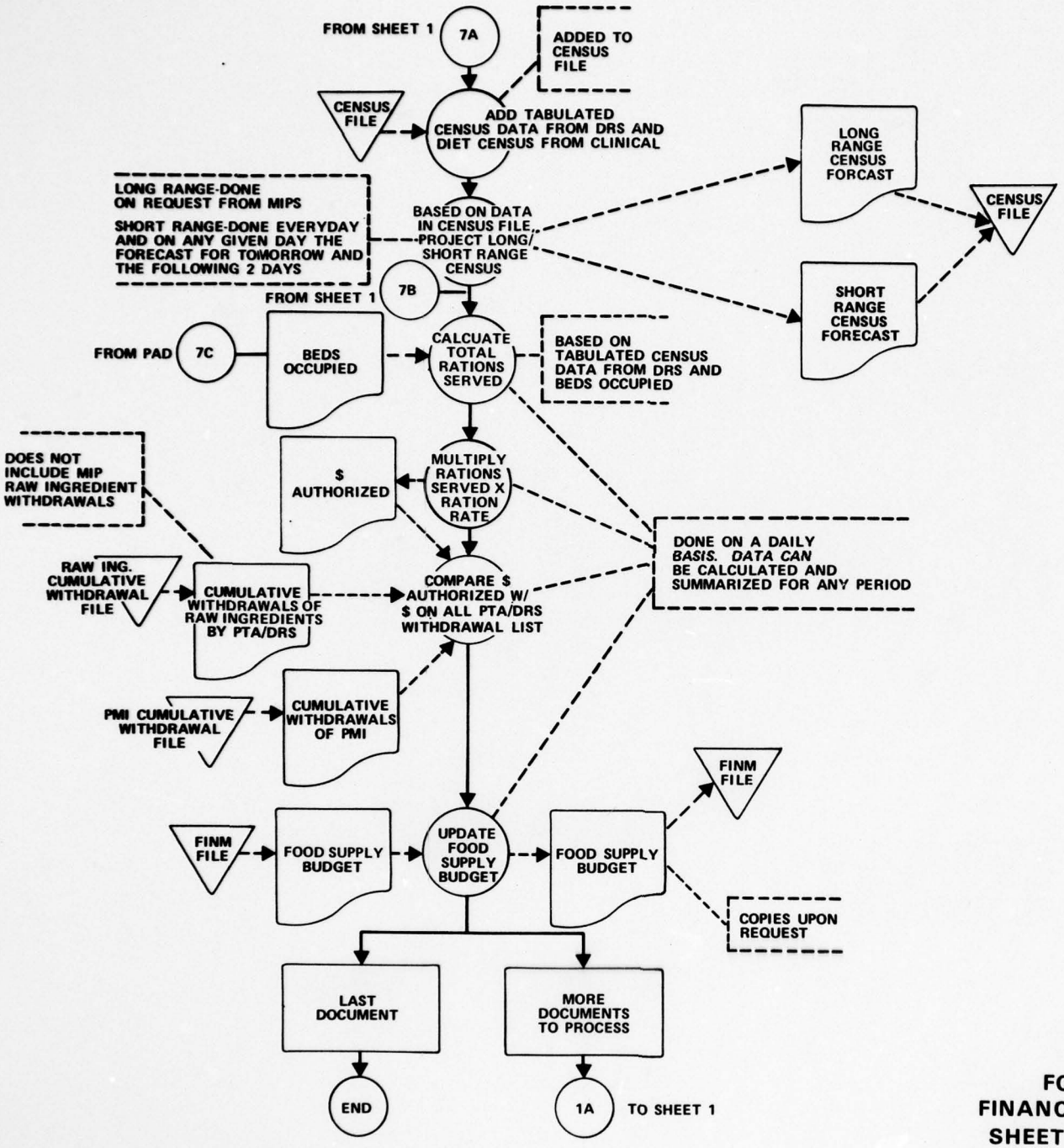


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FINANCIAL MANAGEMENT
SHEET 5 OF 9 4 MAR 75

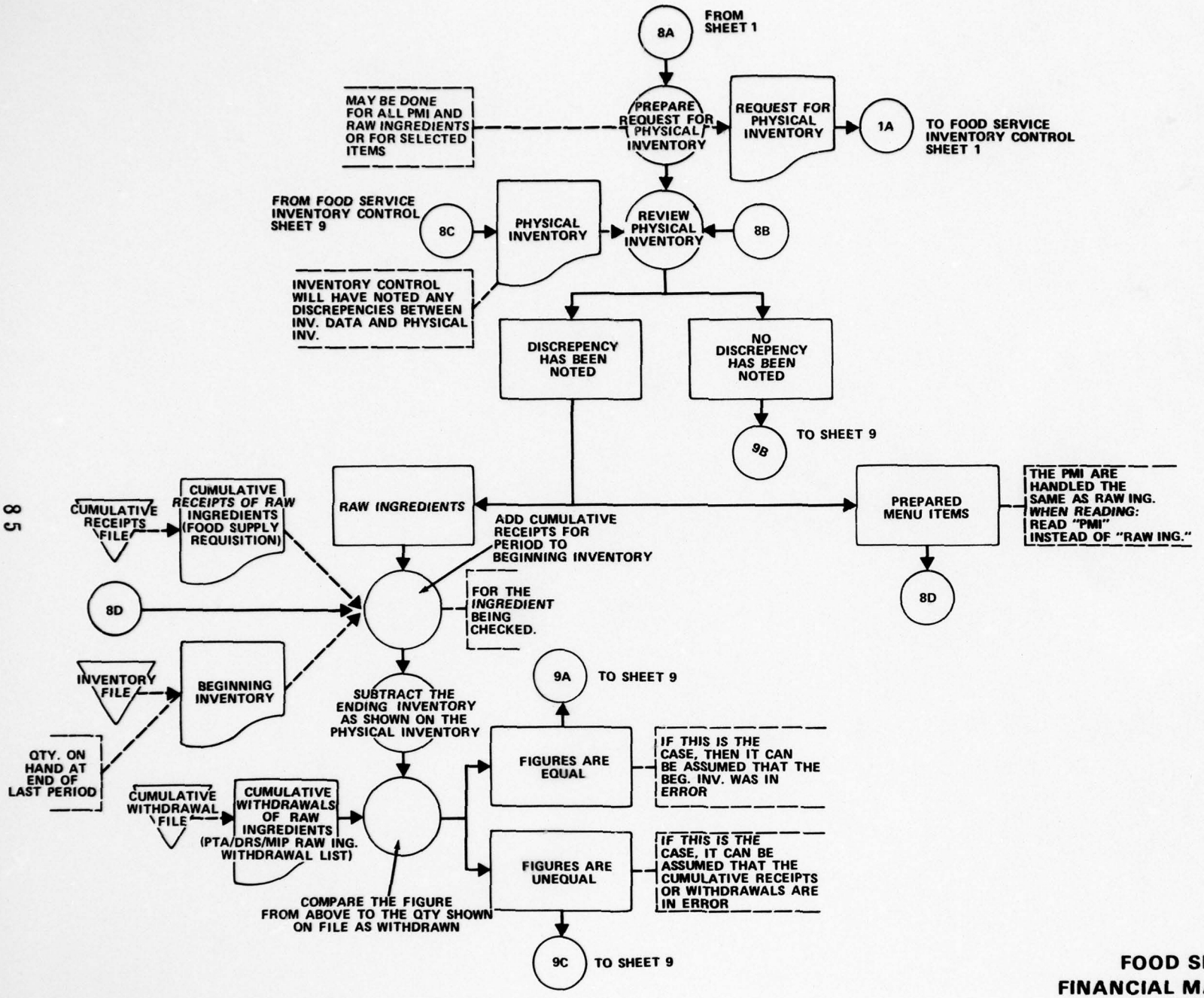




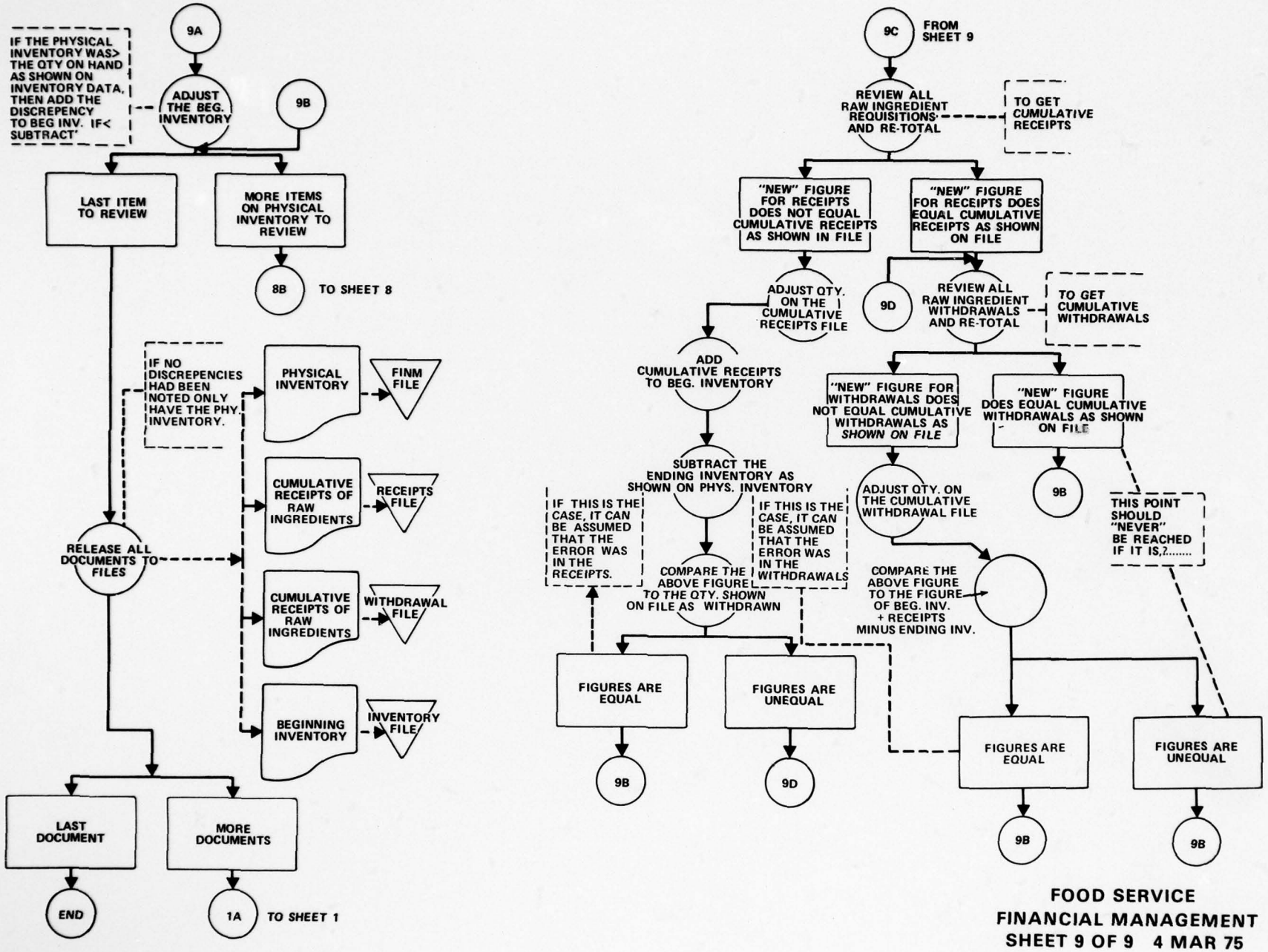
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FINANCIAL MANAGEMENT
SHEET 6 OF 9 4 MAR 75



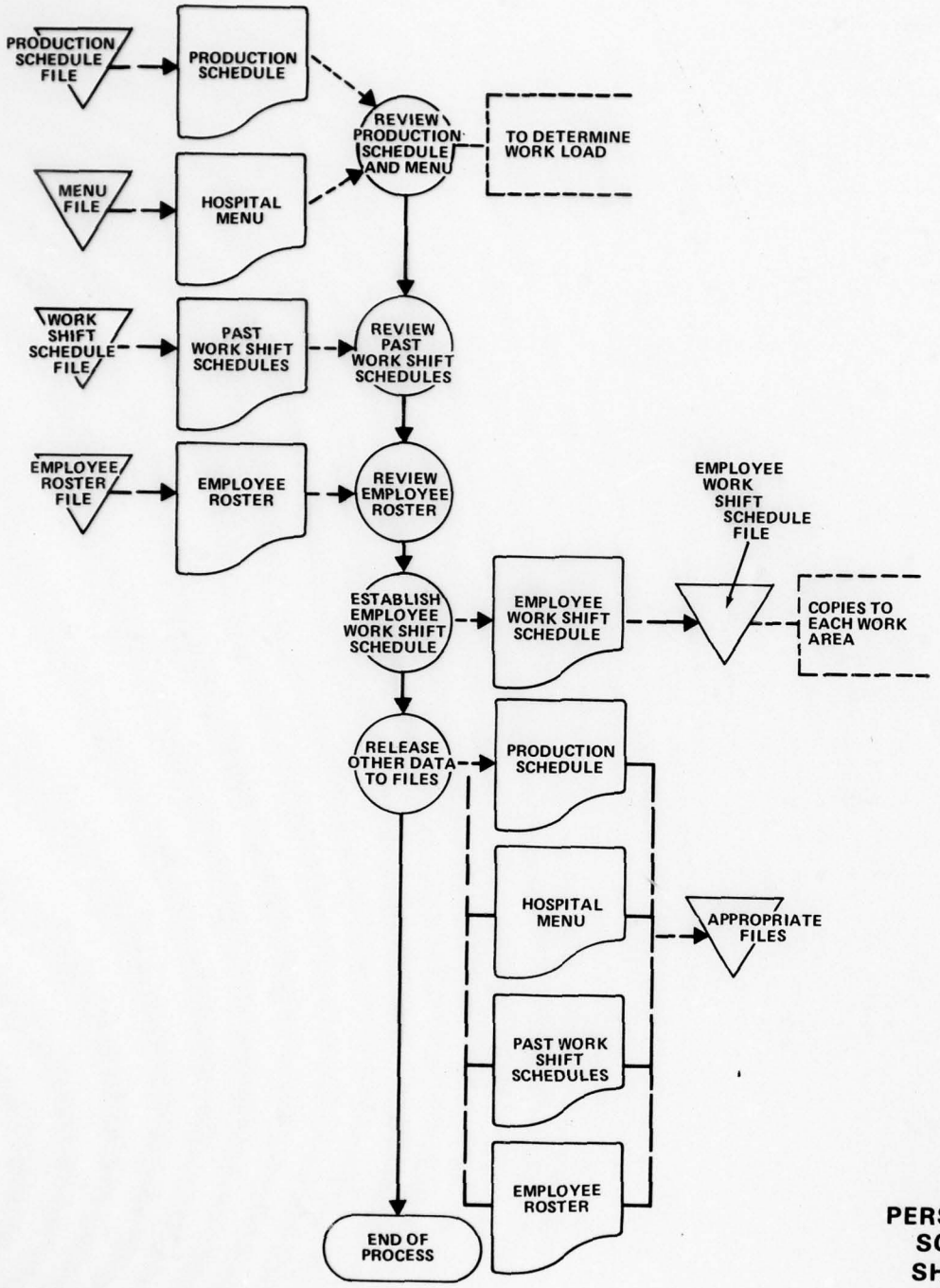
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FINANCIAL MANAGEMENT
SHEET 7 OF 9 4 MAR 75



FOOD SERVICE
FINANCIAL MANAGEMENT
SHEET 8 OF 9 4 MAR 75



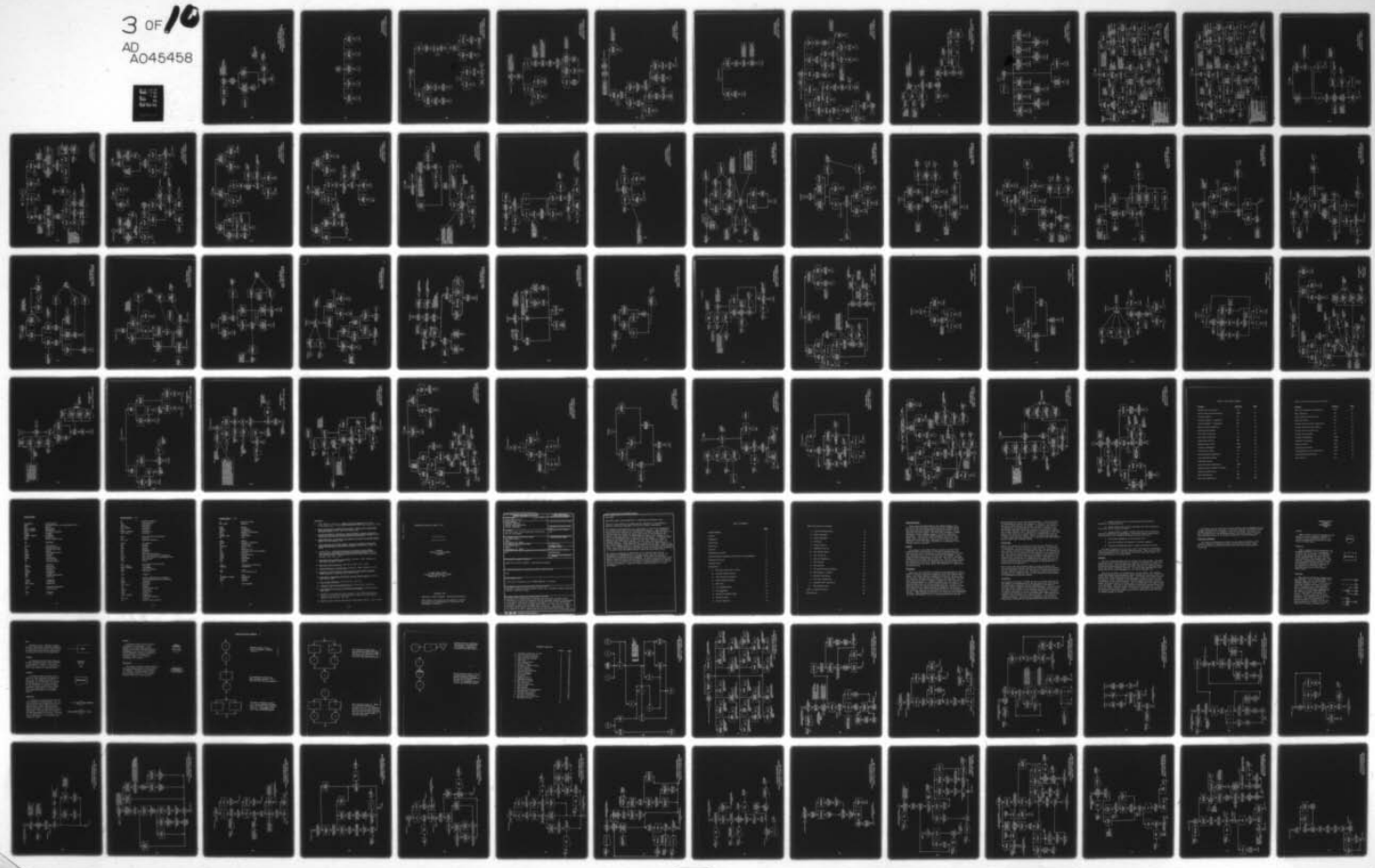
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FINANCIAL MANAGEMENT
SHEET 9 OF 9 4 MAR 75

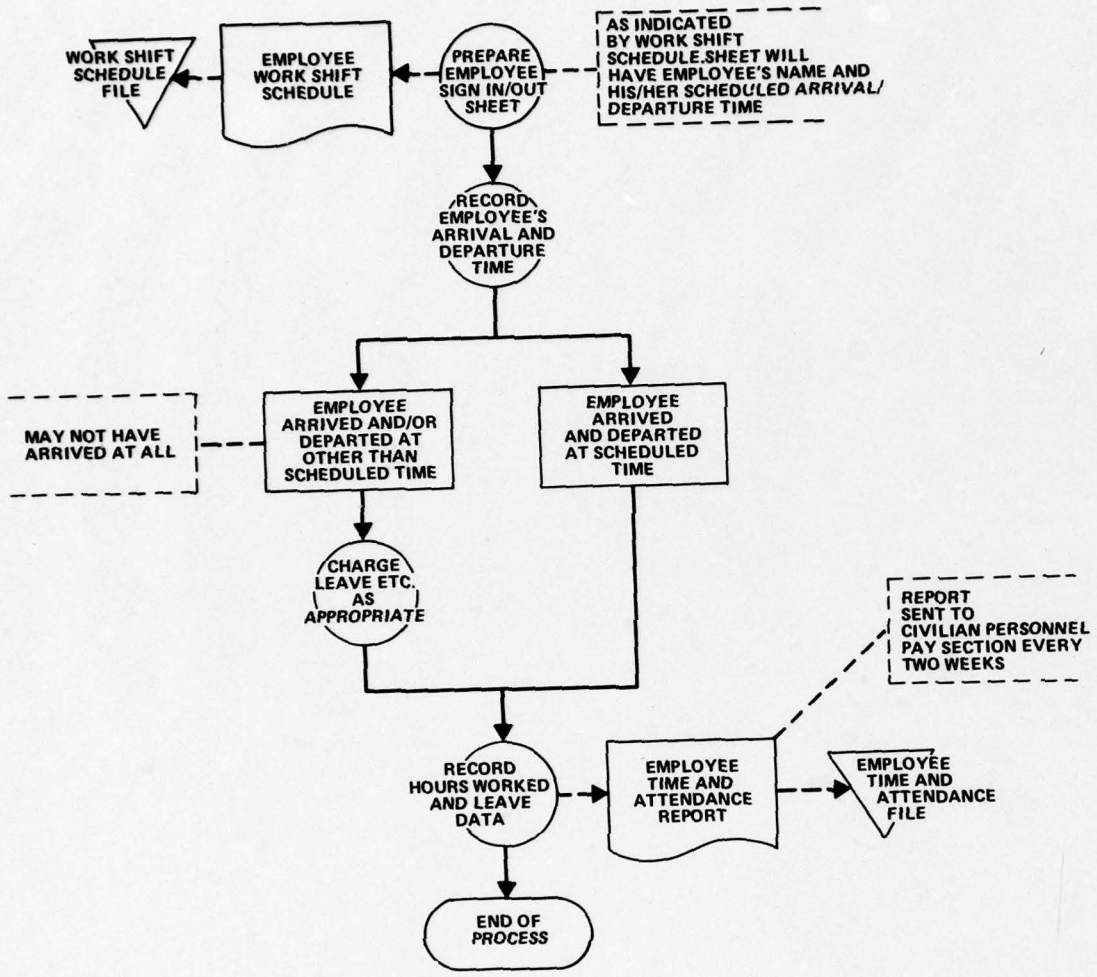


FOOD SERVICE
PERSONNEL MANAGEMENT
SCHEDULING PROCESS
SHEET 1 OF 1 8 DEC 75

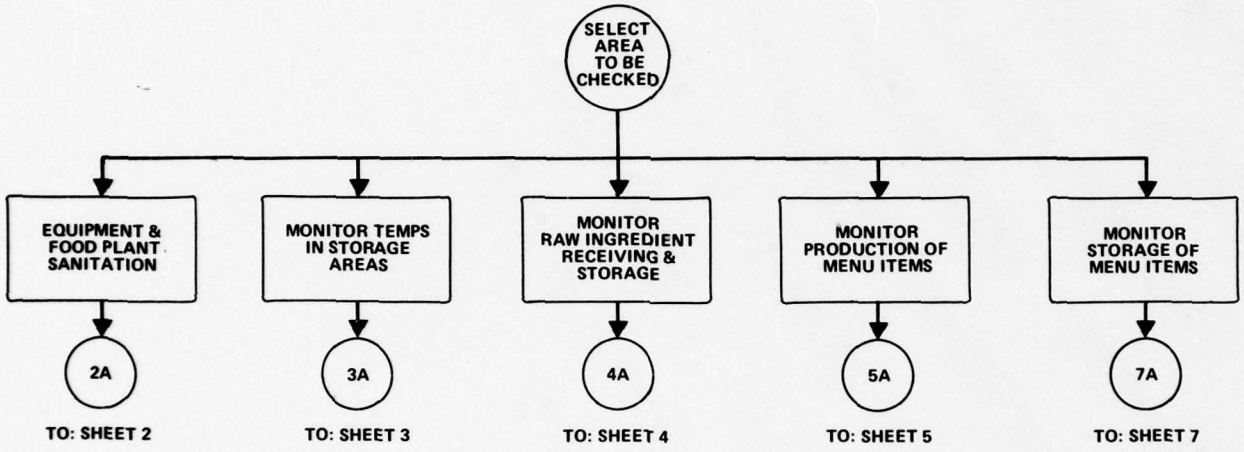
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HEALTH CARE INFORMATION. PROCESS CONDITION-ACTION DIAGRAM FLOWC--ETC(U)
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UNCLASSIFIED TRIMIS-ARMY-TR-1 NL

3 OF 10
AD A045458

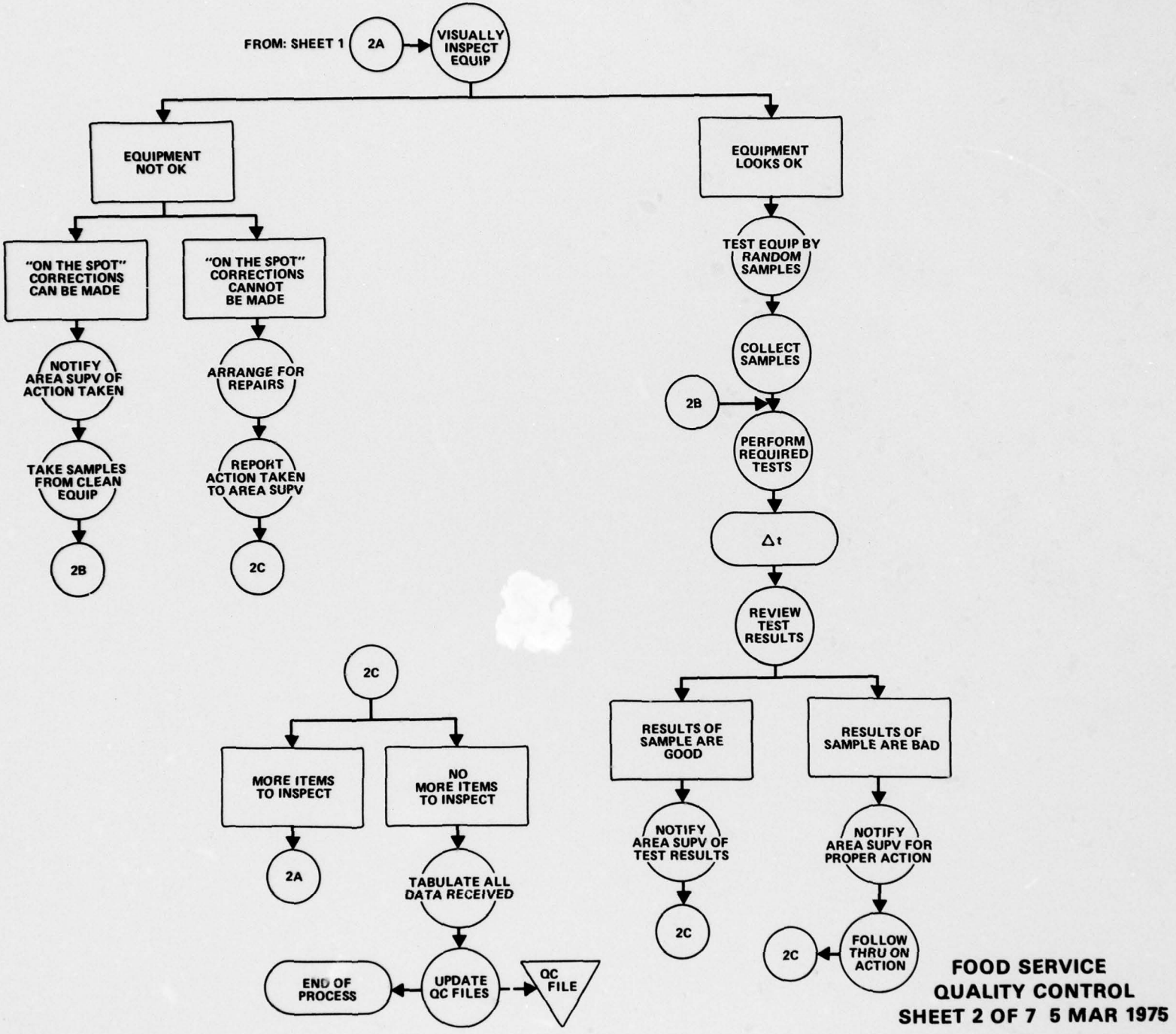




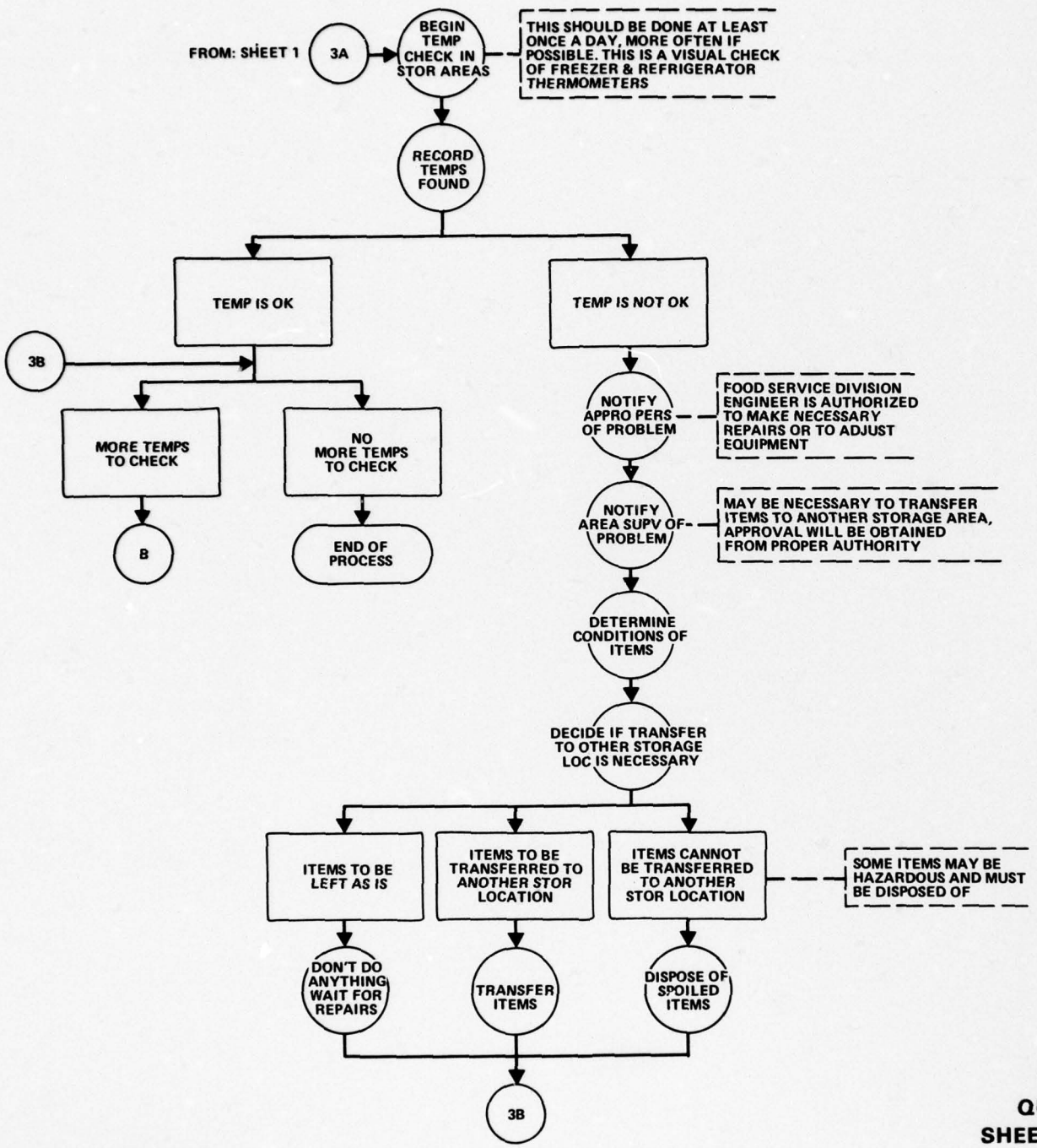
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PERSONNEL MANAGEMENT
EMPLOYEE SIGN IN/OUT PROCESS
SHEET 1 OF 1 8 DEC 75



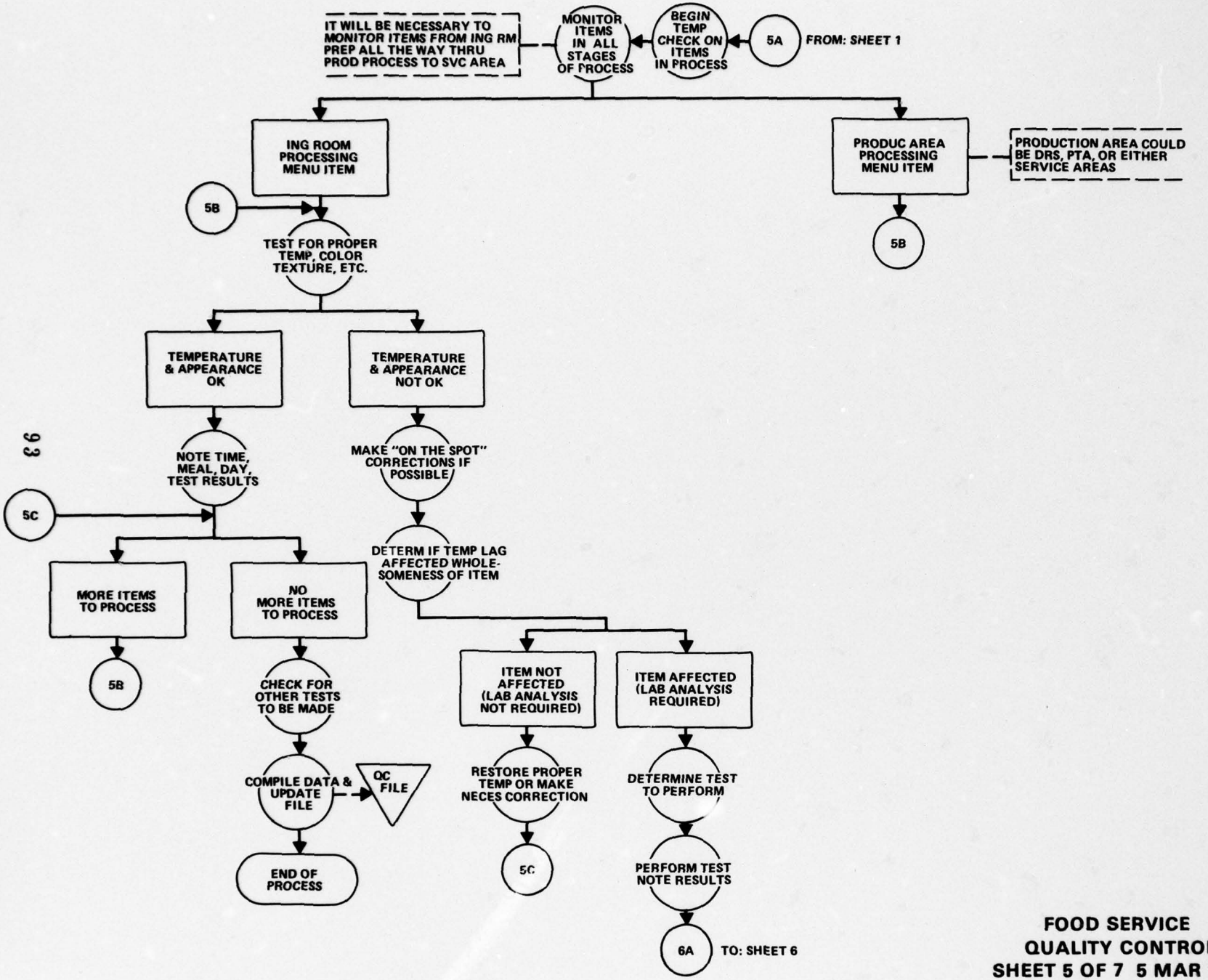
FOOD SERVICE
QUALITY CONTROL
SHEET 1 OF 7 5 MAR 1975



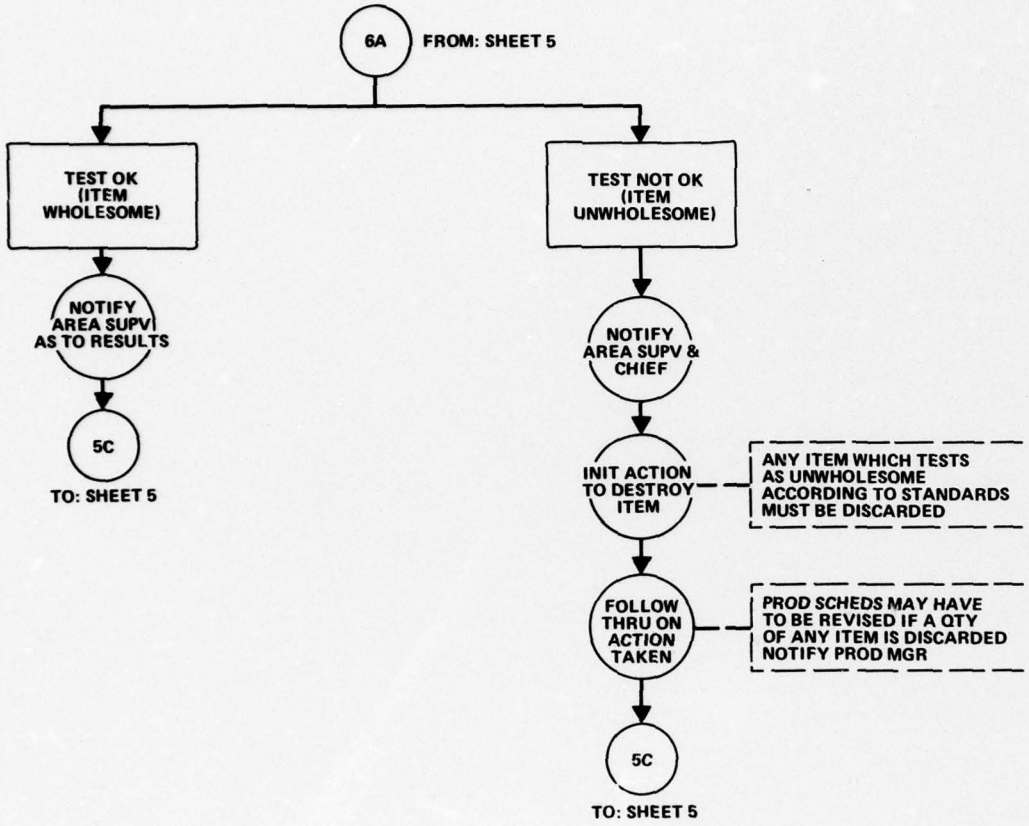
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QUALITY CONTROL
SHEET 2 OF 7 5 MAR 1975



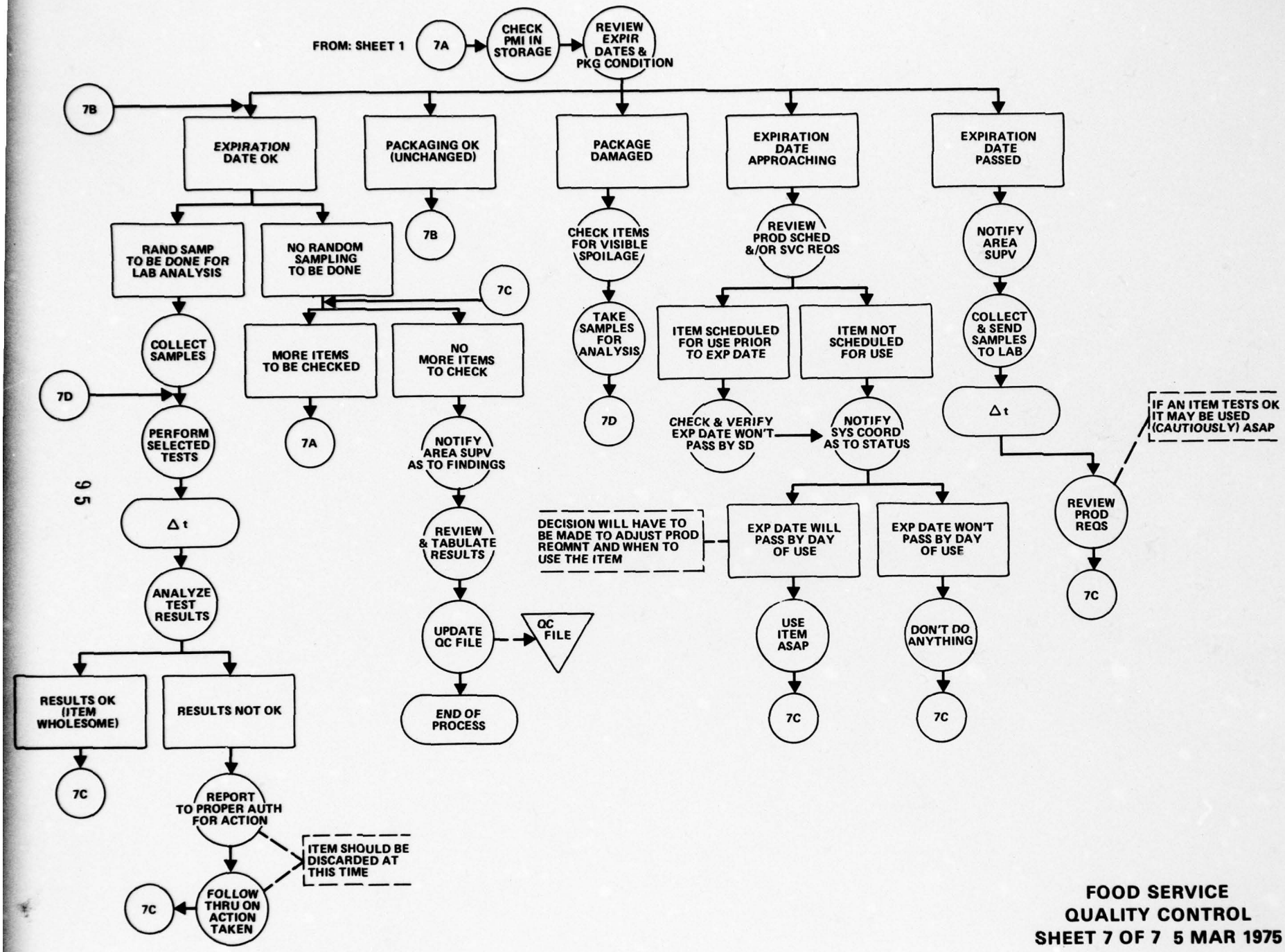
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QUALITY CONTROL
SHEET 3 OF 7 5 MAR 1975



FOOD SERVICE
QUALITY CONTROL
SHEET 5 OF 7 5 MAR 1975

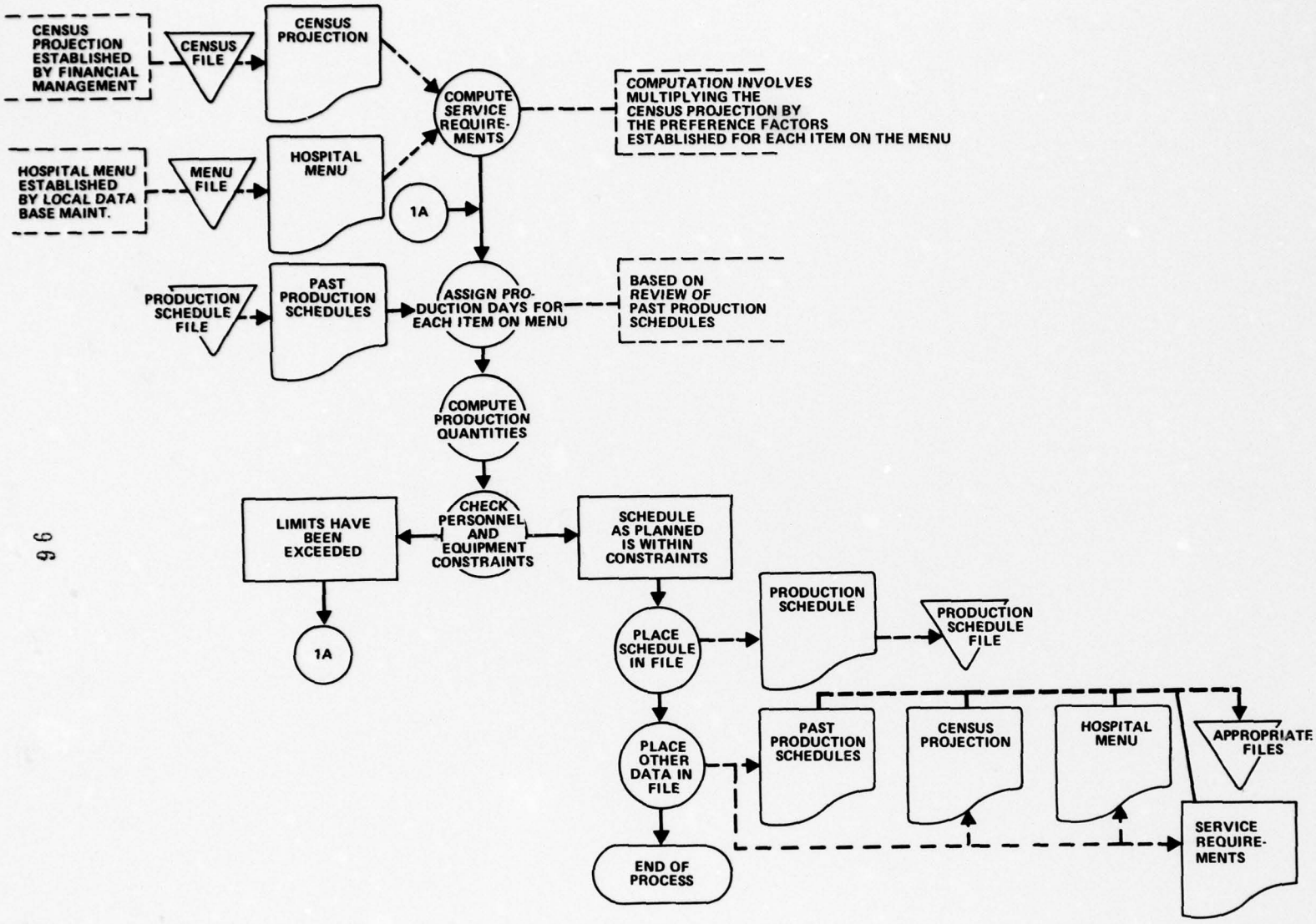


FOOD SERVICE
QUALITY CONTROL
SHEET 6 OF 7 5 MAR 1975

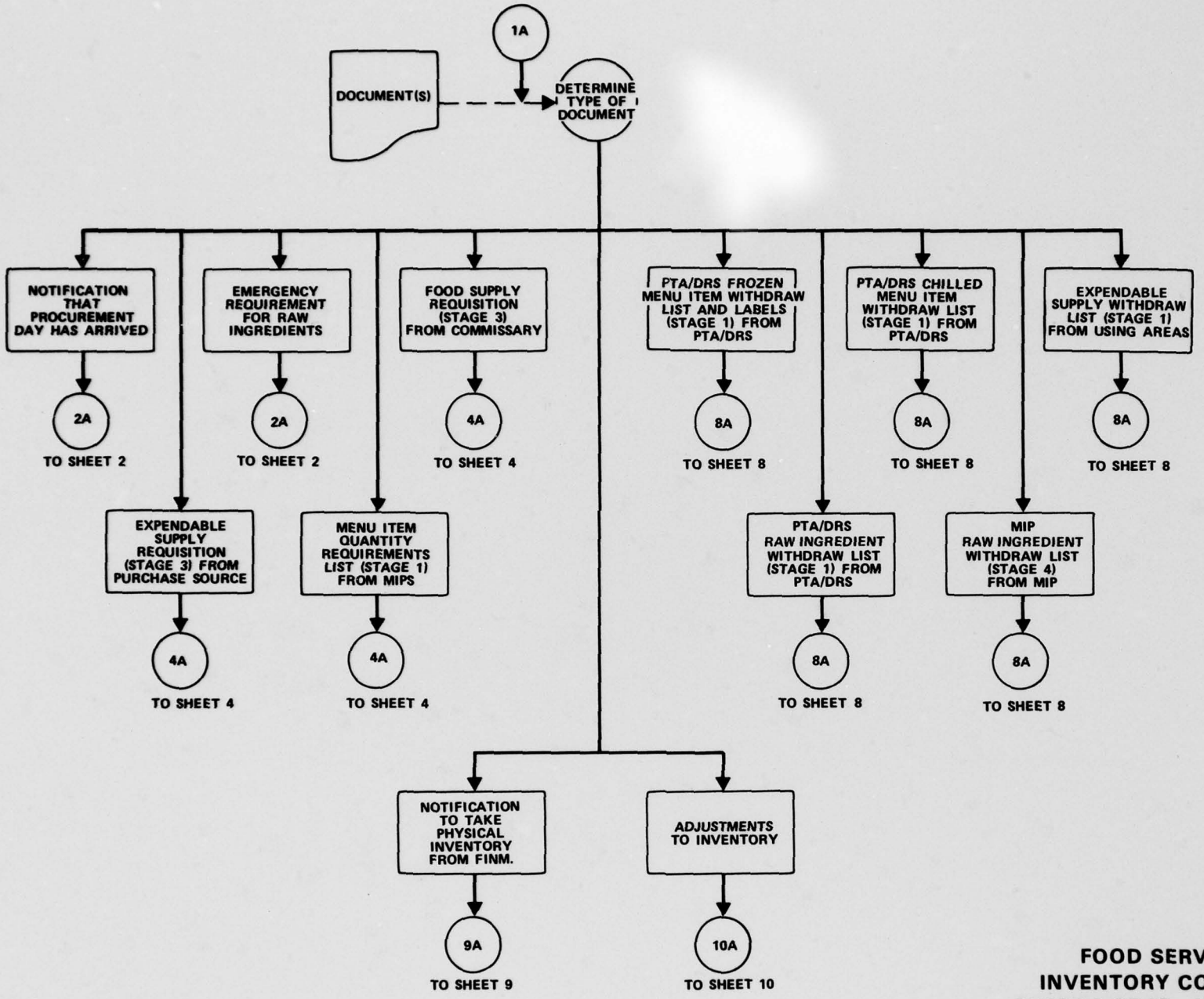


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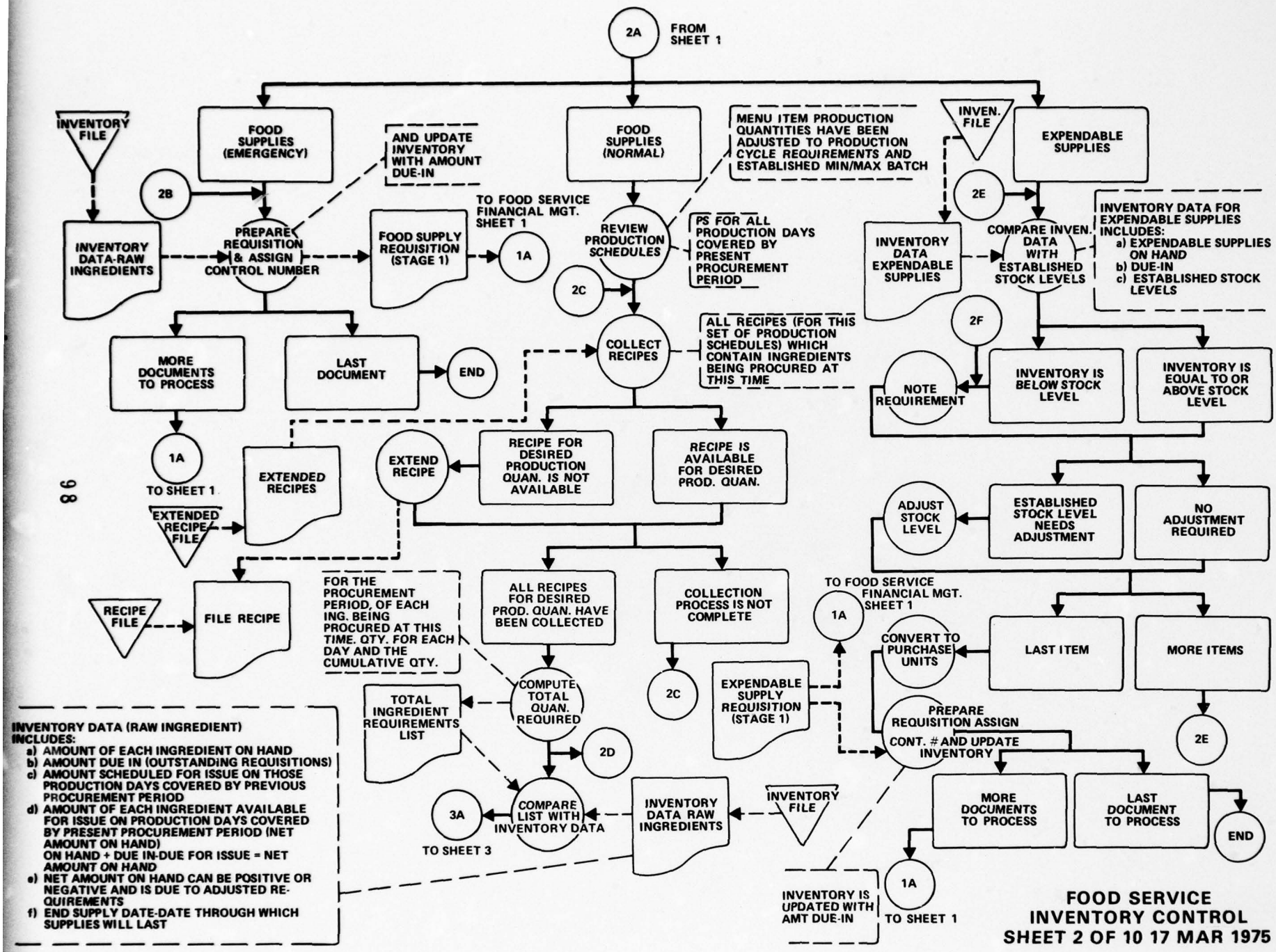
FOOD SERVICE
QUALITY CONTROL
SHEET 7 OF 7 5 MAR 1975

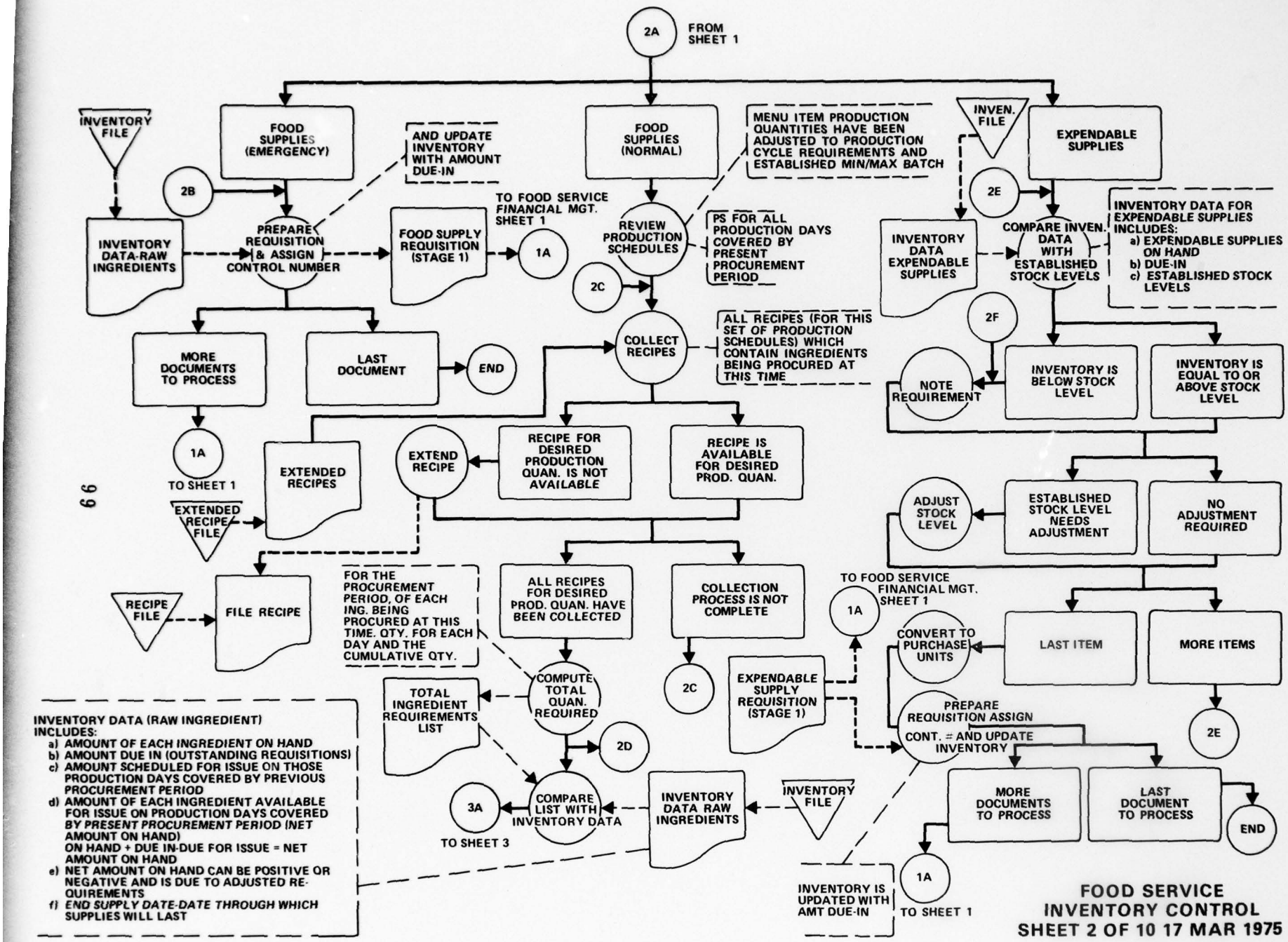


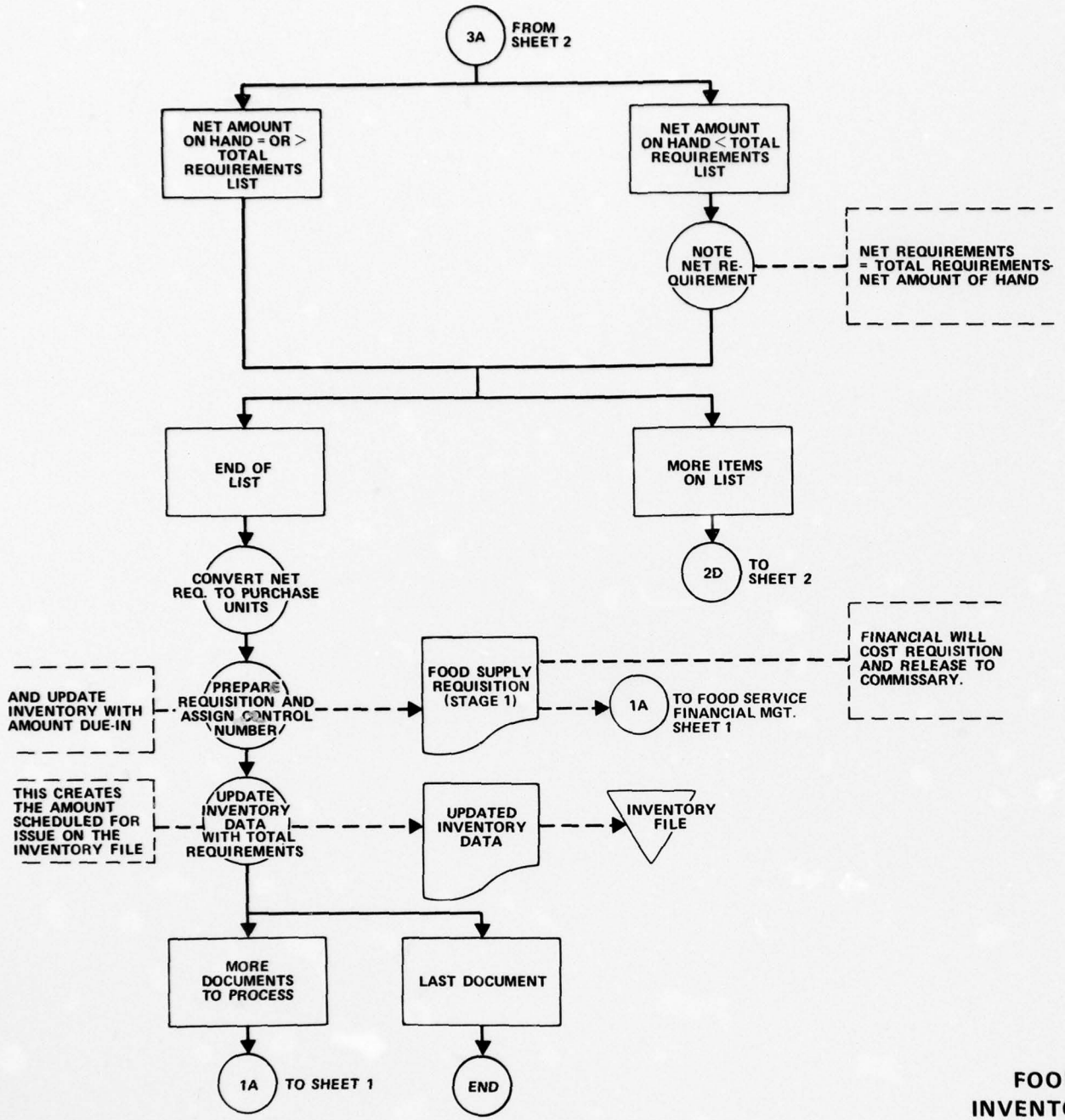
FOOD SERVICE
MENU ITEM PREPARATION SCHEDULING
SHEET 1 OF 1 8 DEC 75



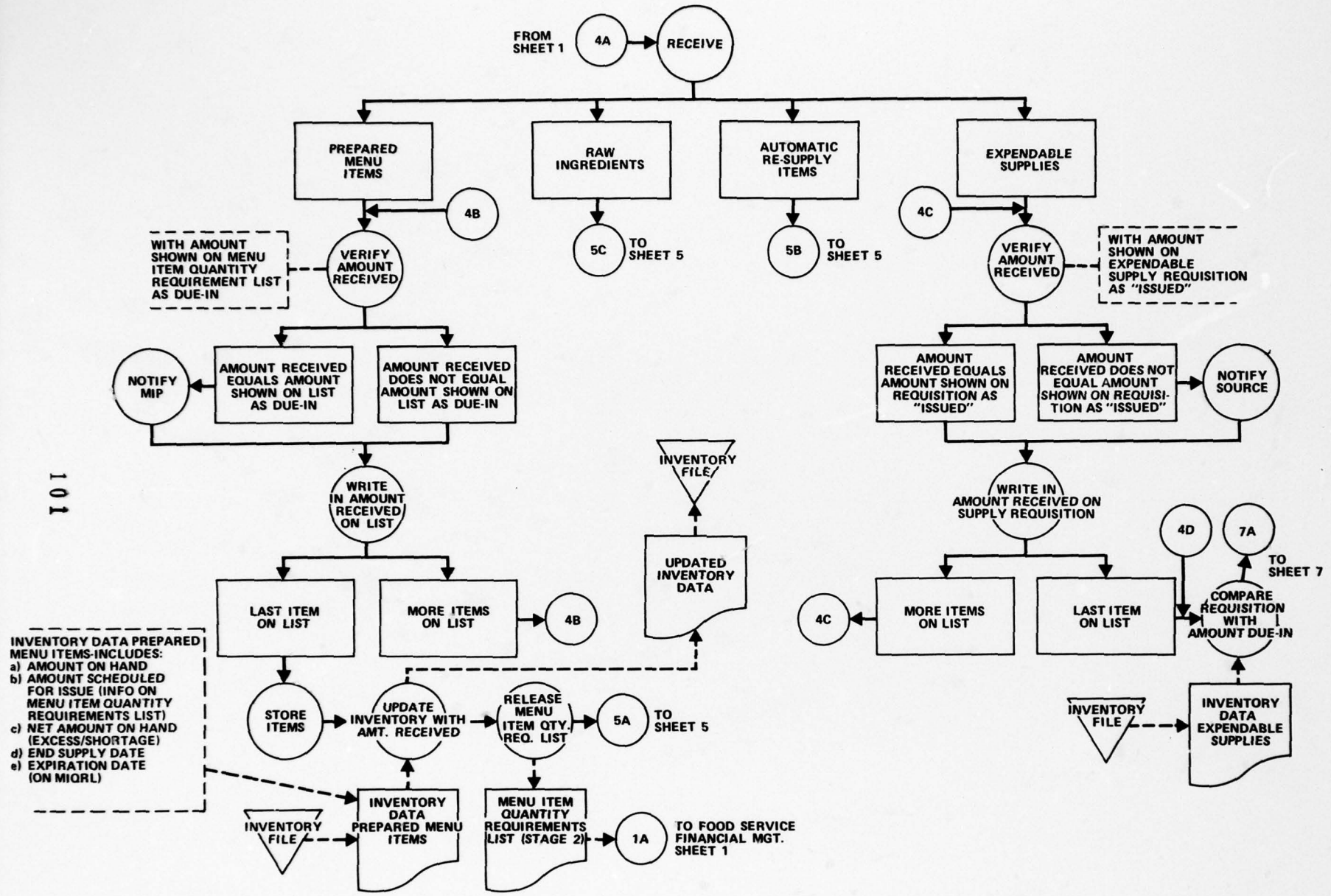
FOOD SERVICE
INVENTORY CONTROL
SHEET 1 OF 10 17 MAR 75


2A
FROM SHEET 1
INVENTORY FILE
FOOD SUPPLIES (EMERGENCY)
AND UPDATE INVENTORY WITH AMOUNT DUE-IN
FOOD SUPPLIES (NORMAL)
MENU ITEM PRODUCTION QUANTITIES HAVE BEEN ADJUSTED TO PRODUCTION CYCLE REQUIREMENTS AND ESTABLISHED MIN/MAX BATCH
INVEN. FILE
EXPENDABLE SUPPLIES
2B
2E
INVENTORY DATA-RAW INGREDIENTS
PREPARE REQUISITION & ASSIGN CONTROL NUMBER
FOOD SUPPLY REQUISITION (STAGE 1)
TO FOOD SERVICE FINANCIAL MGT. SHEET 1
1A
REVIEW PRODUCTION SCHEDULES
PS FOR ALL PRODUCTION DAYS COVERED BY PRESENT PROCUREMENT PERIOD
2C
INVENTORY DATA EXPENDABLE SUPPLIES
COMPARE INVEN. DATA WITH ESTABLISHED STOCK LEVELS
INVENTORY DATA FOR EXPENDABLE SUPPLIES INCLUDES:
a) EXPENDABLE SUPPLIES ON HAND
b) DUE-IN
c) ESTABLISHED STOCK LEVELS
2F
MORE DOCUMENTS TO PROCESS
LAST DOCUMENT
END
COLLECT RECIPES
ALL RECIPES (FOR THIS SET OF PRODUCTION SCHEDULES) WHICH CONTAIN INGREDIENTS BEING PROCURED AT THIS TIME
NOTE REQUIREMENT
INVENTORY IS BELOW STOCK LEVEL
INVENTORY IS EQUAL TO OR ABOVE STOCK LEVEL
1A
TO SHEET 1
EXTENDED RECIPES
EXTEND RECIPE
RECIPE FOR DESIRED PRODUCTION QUAN. IS NOT AVAILABLE
RECIPE IS AVAILABLE FOR DESIRED PROD. QUAN.
ADJUST STOCK LEVEL
ESTABLISHED STOCK LEVEL NEEDS ADJUSTMENT
NO ADJUSTMENT REQUIRED
EXTENDED RECIPE FILE
RECIPE FILE
FILE RECIPE
FOR THE PROCUREMENT PERIOD, OF EACH ING. BEING PROCURED AT THIS TIME. QTY. FOR EACH DAY AND THE CUMULATIVE QTY.
ALL RECIPES FOR DESIRED PROD. QUAN. HAVE BEEN COLLECTED
COLLECTION PROCESS IS NOT COMPLETE
TO FOOD SERVICE FINANCIAL MGT. SHEET 1
1A
CONVERT TO PURCHASE UNITS
LAST ITEM
MORE ITEMS
TOTAL INGREDIENT REQUIREMENTS LIST
COMPUTE TOTAL QUAN. REQUIRED
2C
EXPENDABLE SUPPLY REQUISITION (STAGE 1)
PREPARE REQUISITION ASSIGN CONT. # AND UPDATE INVENTORY
2E
2D
3A
TO SHEET 3
COMPARE LIST WITH INVENTORY DATA
INVENTORY DATA RAW INGREDIENTS
INVENTORY FILE
MORE DOCUMENTS TO PROCESS
LAST DOCUMENT TO PROCESS
END
INVENTORY DATA (RAW INGREDIENT) INCLUDES:
a) AMOUNT OF EACH INGREDIENT ON HAND
b) AMOUNT DUE IN (OUTSTANDING REQUISITIONS)
c) AMOUNT SCHEDULED FOR ISSUE ON THOSE PRODUCTION DAYS COVERED BY PREVIOUS PROCUREMENT PERIOD
d) AMOUNT OF EACH INGREDIENT AVAILABLE FOR ISSUE ON PRODUCTION DAYS COVERED BY PRESENT PROCUREMENT PERIOD (NET AMOUNT ON HAND)
ON HAND + DUE IN-DUE FOR ISSUE = NET AMOUNT ON HAND
e) NET AMOUNT ON HAND CAN BE POSITIVE OR NEGATIVE AND IS DUE TO ADJUSTED REQUIREMENTS
f) END SUPPLY DATE-DATE THROUGH WHICH SUPPLIES WILL LAST
INVENTORY IS UPDATED WITH AMT DUE-IN
1A
TO SHEET 1
FOOD SERVICE
INVENTORY CONTROL
SHEET 2 OF 10 17 MAR 1975

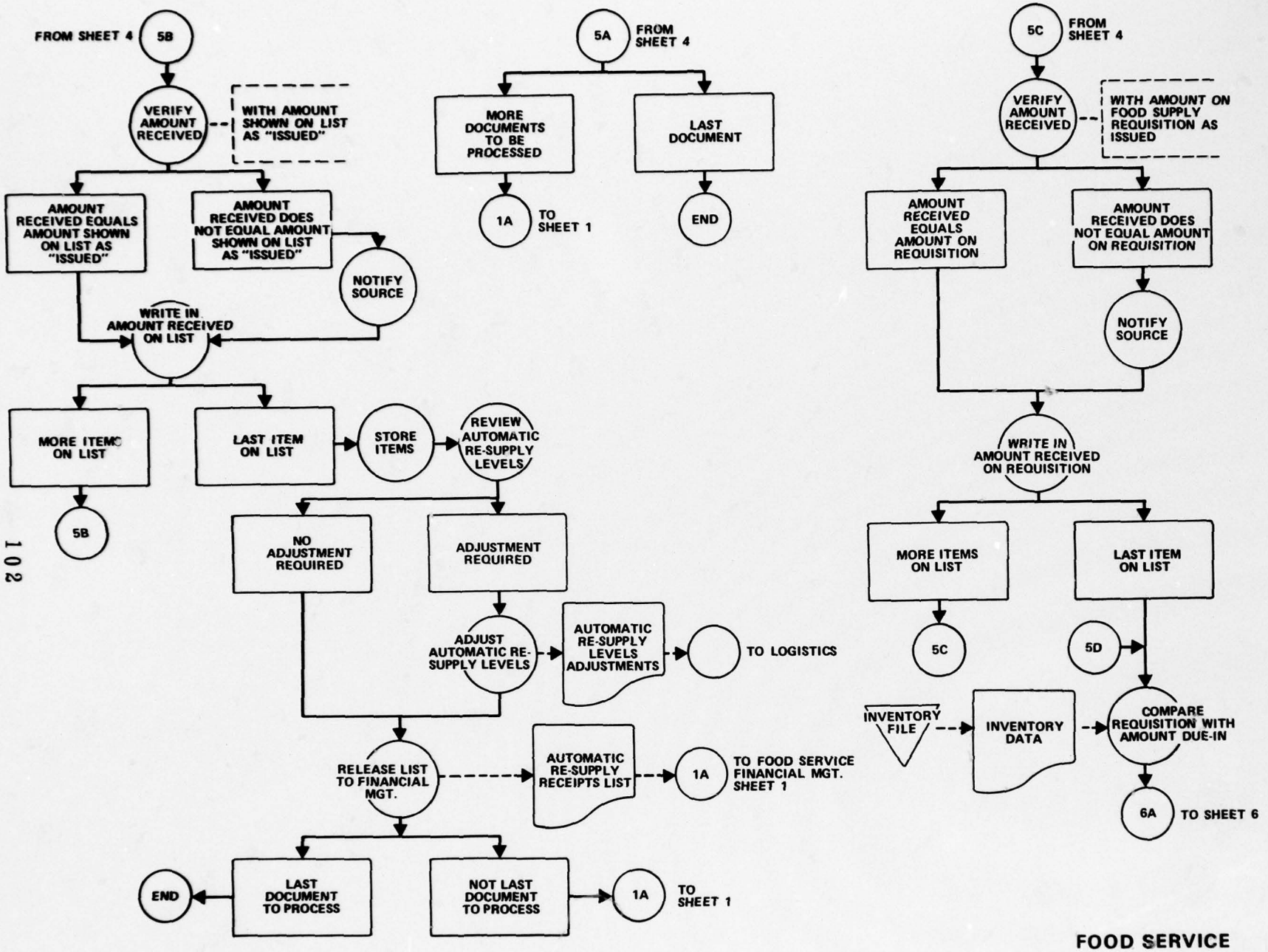

2A
FROM SHEET 1
INVENTORY FILE
FOOD SUPPLIES (EMERGENCY)
AND UPDATE INVENTORY WITH AMOUNT DUE-IN
FOOD SUPPLIES (NORMAL)
MENU ITEM PRODUCTION QUANTITIES HAVE BEEN ADJUSTED TO PRODUCTION CYCLE REQUIREMENTS AND ESTABLISHED MIN/MAX BATCH
INVEN. FILE
EXPENDABLE SUPPLIES
2B
2E
INVENTORY DATA-RAW INGREDIENTS
PREPARE REQUISITION & ASSIGN CONTROL NUMBER
FOOD SUPPLY REQUISITION (STAGE 1)
TO FOOD SERVICE FINANCIAL MGT. SHEET 1
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PS FOR ALL PRODUCTION DAYS COVERED BY PRESENT PROCUREMENT PERIOD
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COMPARE INVEN. DATA WITH ESTABLISHED STOCK LEVELS
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b) DUE-IN
c) ESTABLISHED STOCK LEVELS
2C
2F
MORE DOCUMENTS TO PROCESS
LAST DOCUMENT
END
COLLECT RECIPES
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NOTE REQUIREMENT
INVENTORY IS BELOW STOCK LEVEL
INVENTORY IS EQUAL TO OR ABOVE STOCK LEVEL
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ADJUST STOCK LEVEL
ESTABLISHED STOCK LEVEL NEEDS ADJUSTMENT
NO ADJUSTMENT REQUIRED
EXTENDED RECIPE FILE
RECIPE FILE
FILE RECIPE
FOR THE PROCUREMENT PERIOD, OF EACH ING. BEING PROCURED AT THIS TIME. QTY. FOR EACH DAY AND THE CUMULATIVE QTY.
ALL RECIPES FOR DESIRED PROD. QUAN. HAVE BEEN COLLECTED
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TO FOOD SERVICE FINANCIAL MGT. SHEET 1
1A
CONVERT TO PURCHASE UNITS
LAST ITEM
MORE ITEMS
COMPUTE TOTAL QUAN. REQUIRED
2C
EXPENDABLE SUPPLY REQUISITION (STAGE 1)
PREPARE REQUISITION ASSIGN CONT. # AND UPDATE INVENTORY
2E
TOTAL INGREDIENT REQUIREMENTS LIST
2D
INVENTORY DATA (RAW INGREDIENT) INCLUDES:
a) AMOUNT OF EACH INGREDIENT ON HAND
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d) AMOUNT OF EACH INGREDIENT AVAILABLE FOR ISSUE ON PRODUCTION DAYS COVERED BY PRESENT PROCUREMENT PERIOD (NET AMOUNT ON HAND)
ON HAND + DUE IN-DUE FOR ISSUE = NET AMOUNT ON HAND
e) NET AMOUNT ON HAND CAN BE POSITIVE OR NEGATIVE AND IS DUE TO ADJUSTED REQUIREMENTS
f) END SUPPLY DATE-DATE THROUGH WHICH SUPPLIES WILL LAST
3A
TO SHEET 3
COMPARE LIST WITH INVENTORY DATA
INVENTORY DATA RAW INGREDIENTS
INVENTORY FILE
MORE DOCUMENTS TO PROCESS
LAST DOCUMENT TO PROCESS
END
INVENTORY IS UPDATED WITH AMT DUE-IN
1A
TO SHEET 1
FOOD SERVICE
INVENTORY CONTROL
SHEET 2 OF 10 17 MAR 1975



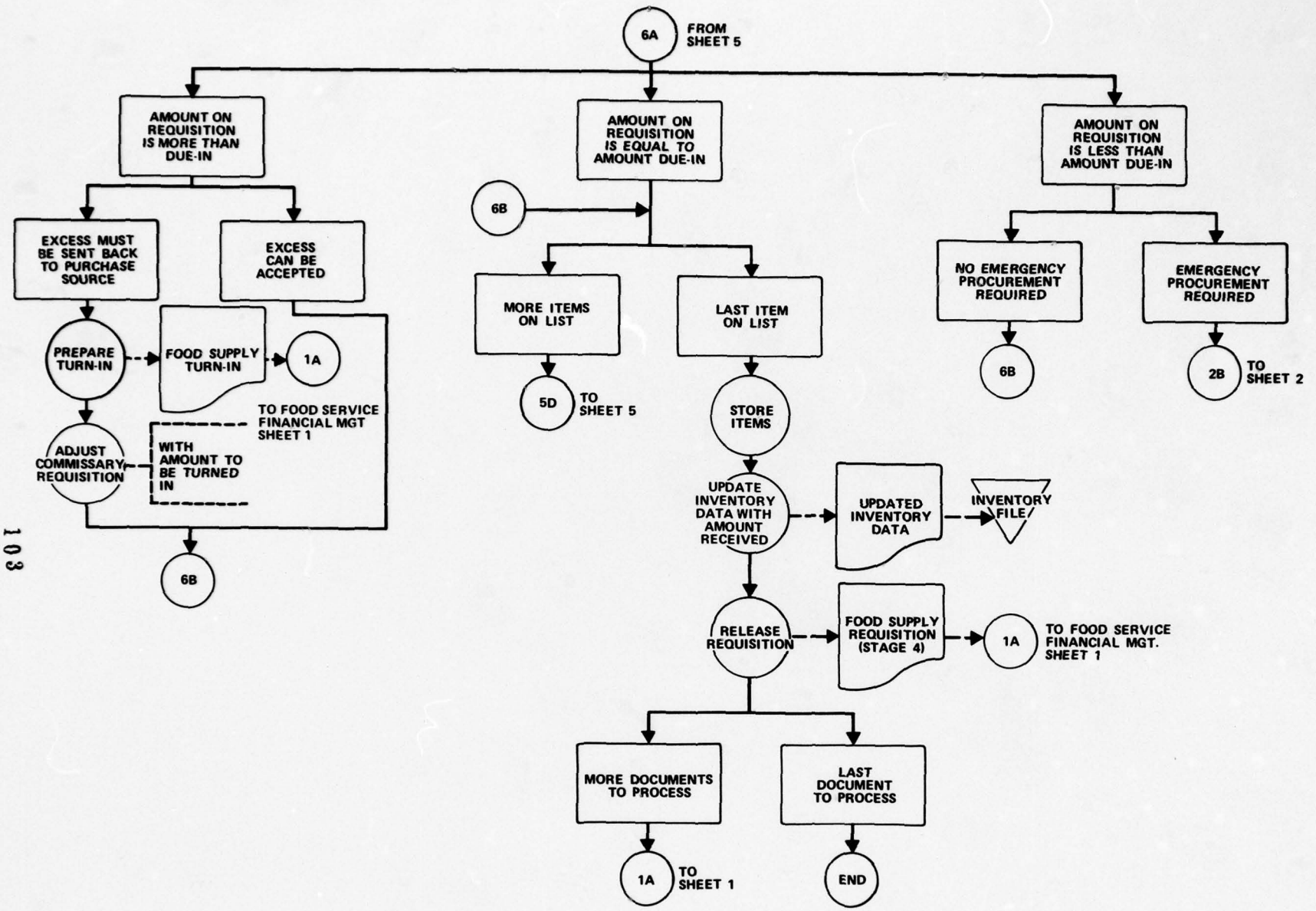
FOOD SERVICE
INVENTORY CONTROL
SHEET 3 OF 10 17 MAR 75



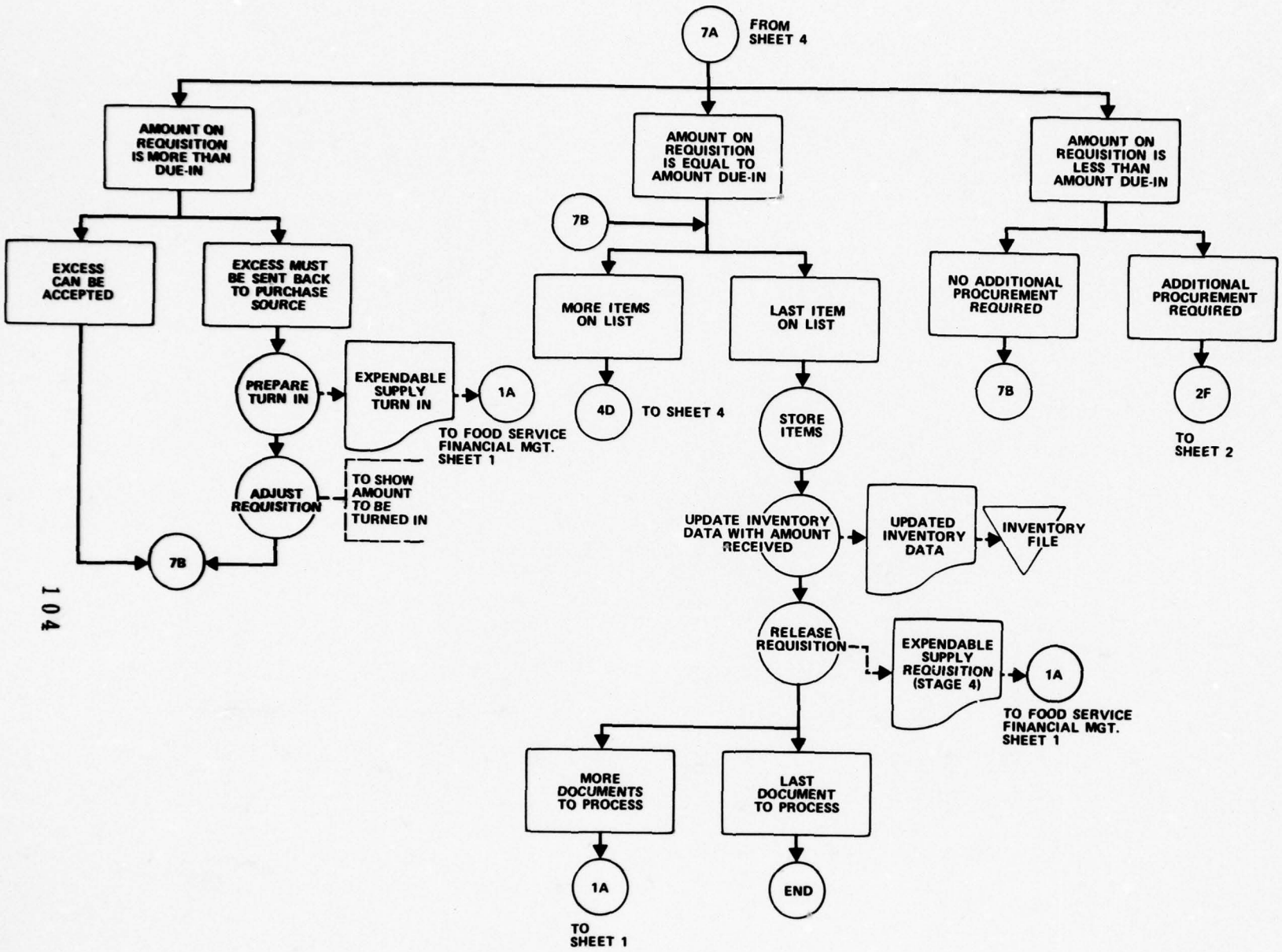
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INVENTORY CONTROL
SHEET 4 OF 10 17 MAR 75



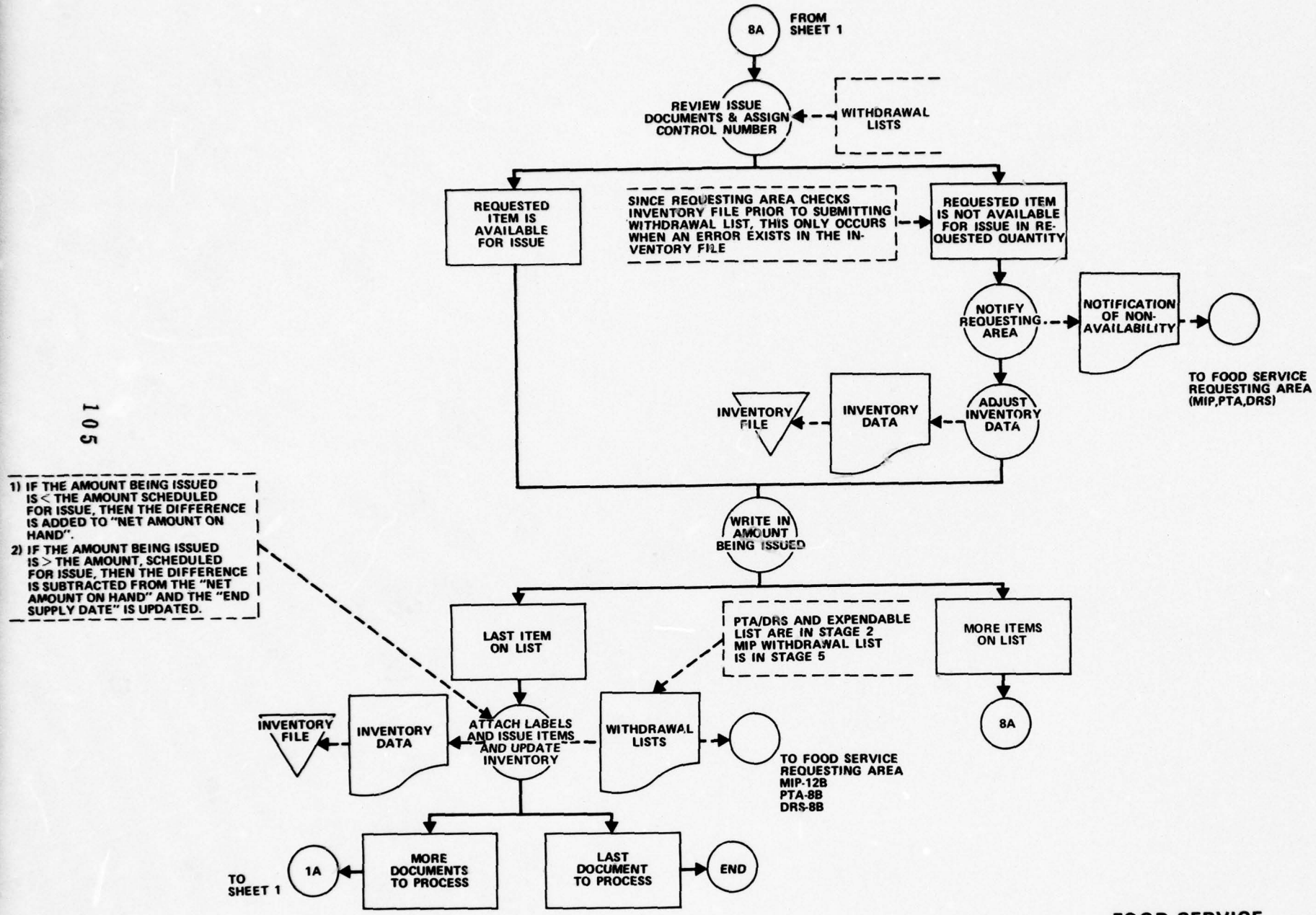
FOOD SERVICE
INVENTORY CONTROL
SHEET 5 OF 10 17 MAR 75



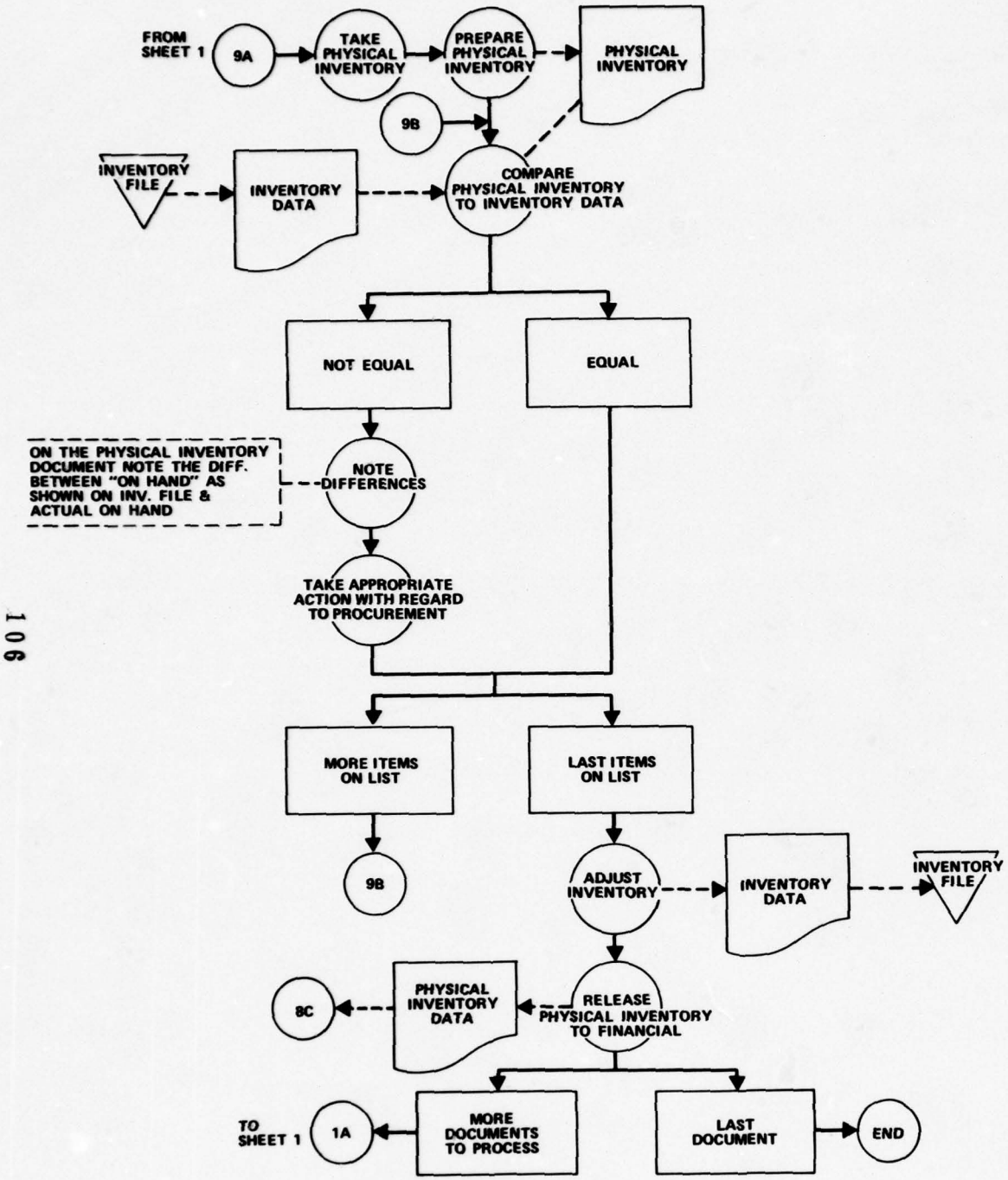
FOOD SERVICE
INVENTORY CONTROL
SHEET 6 OF 10 17 MAR 75



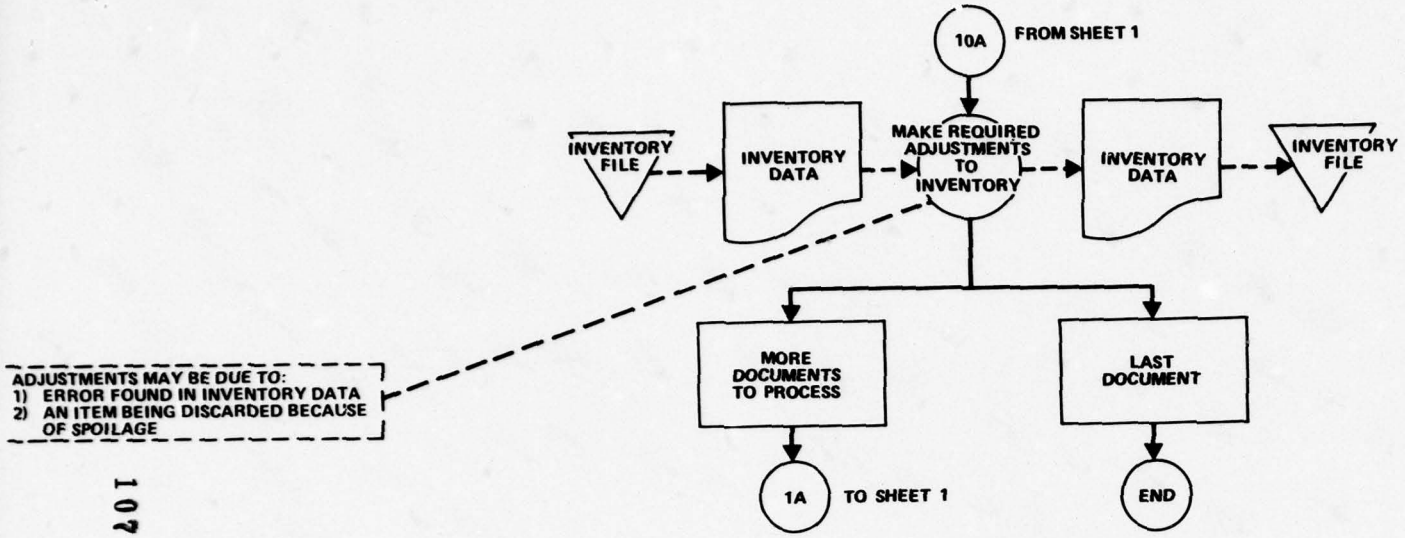
FOOD SERVICE
INVENTORY CONTROL
SHEET 7 OF 10 17 MAR 75



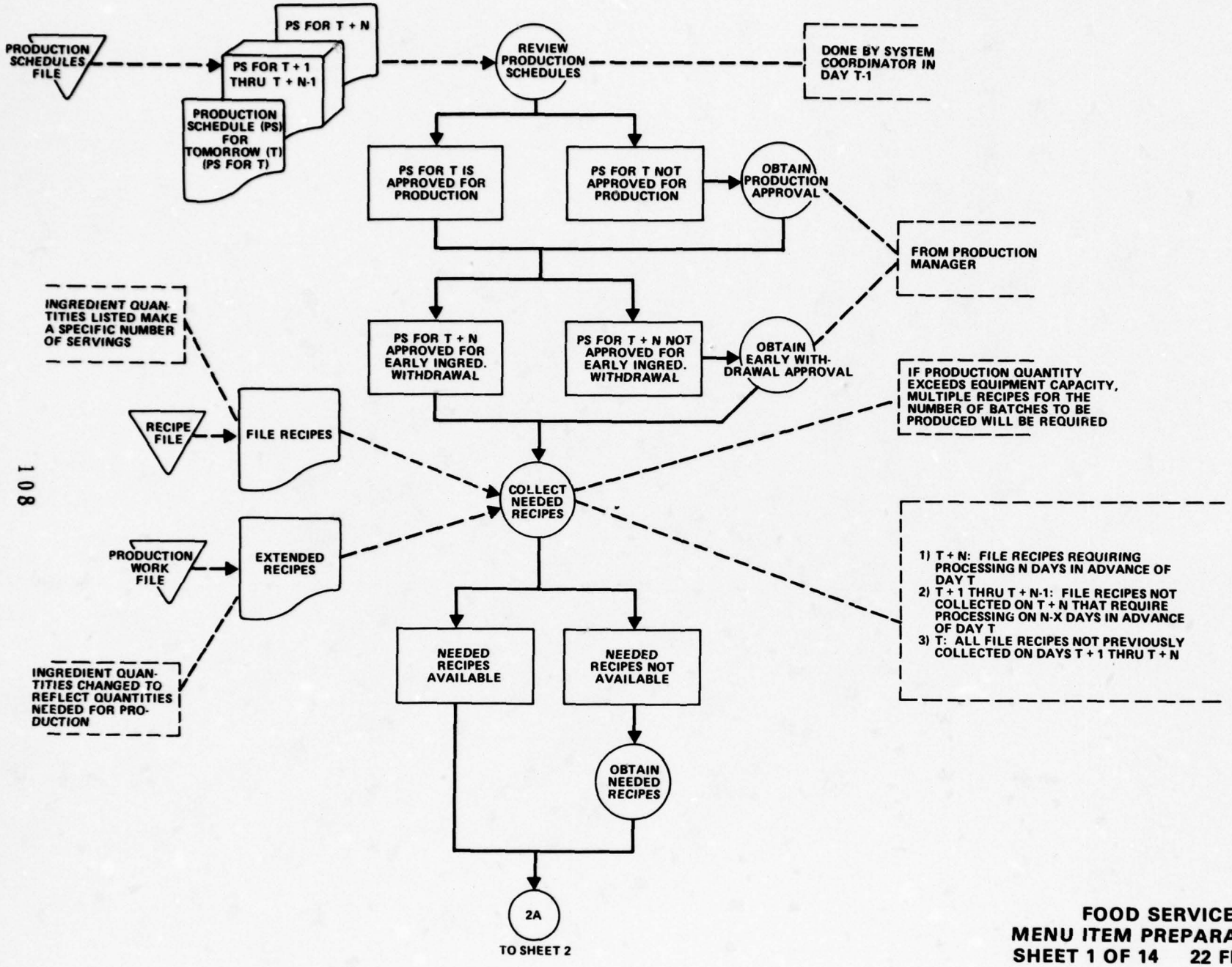
FOOD SERVICE
INVENTORY CONTROL
SHEET 8 OF 10 17 MAR 75



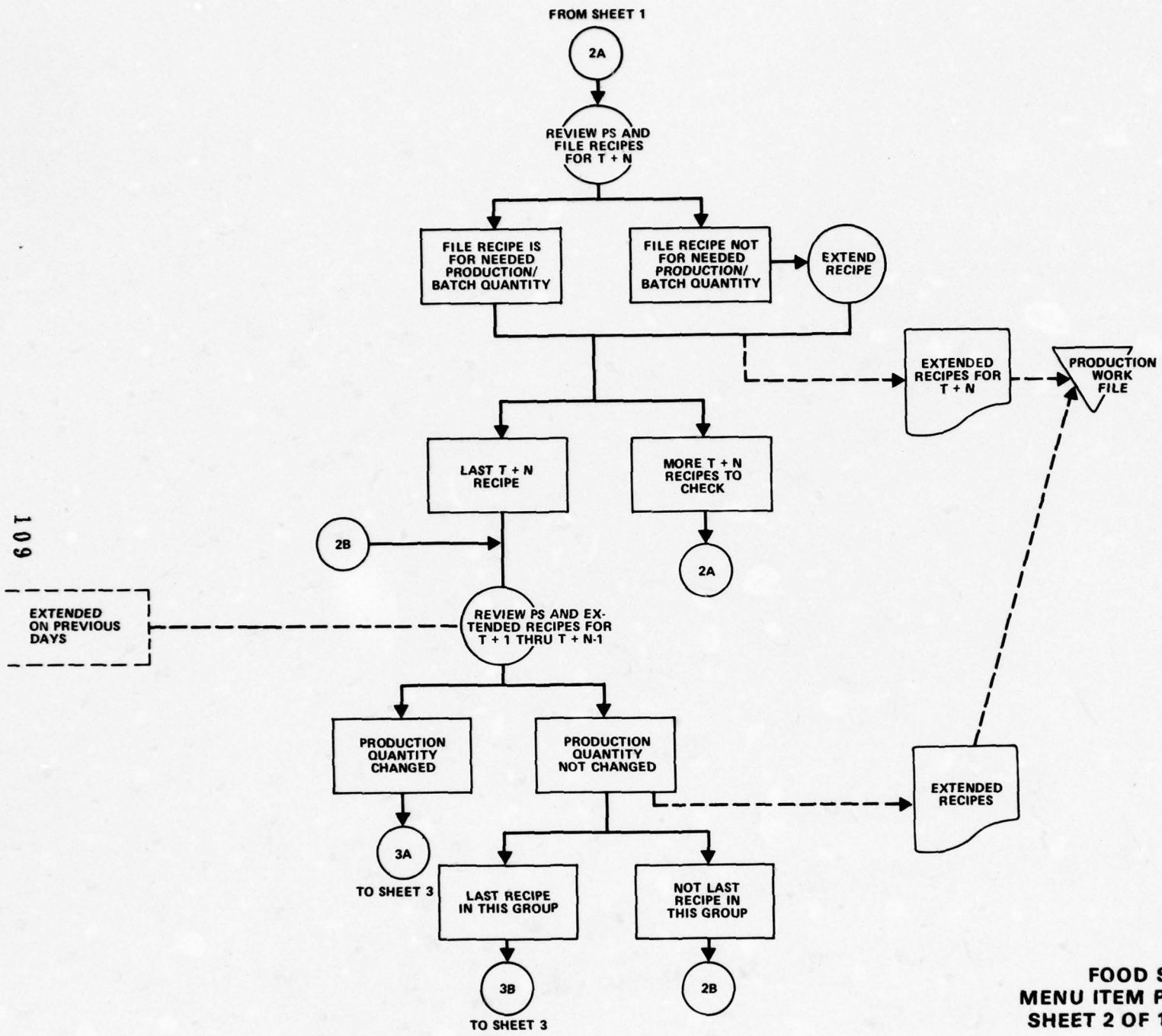
FOOD SERVICE
INVENTORY CONTROL
SHEET 9 OF 10 17 MAR 75



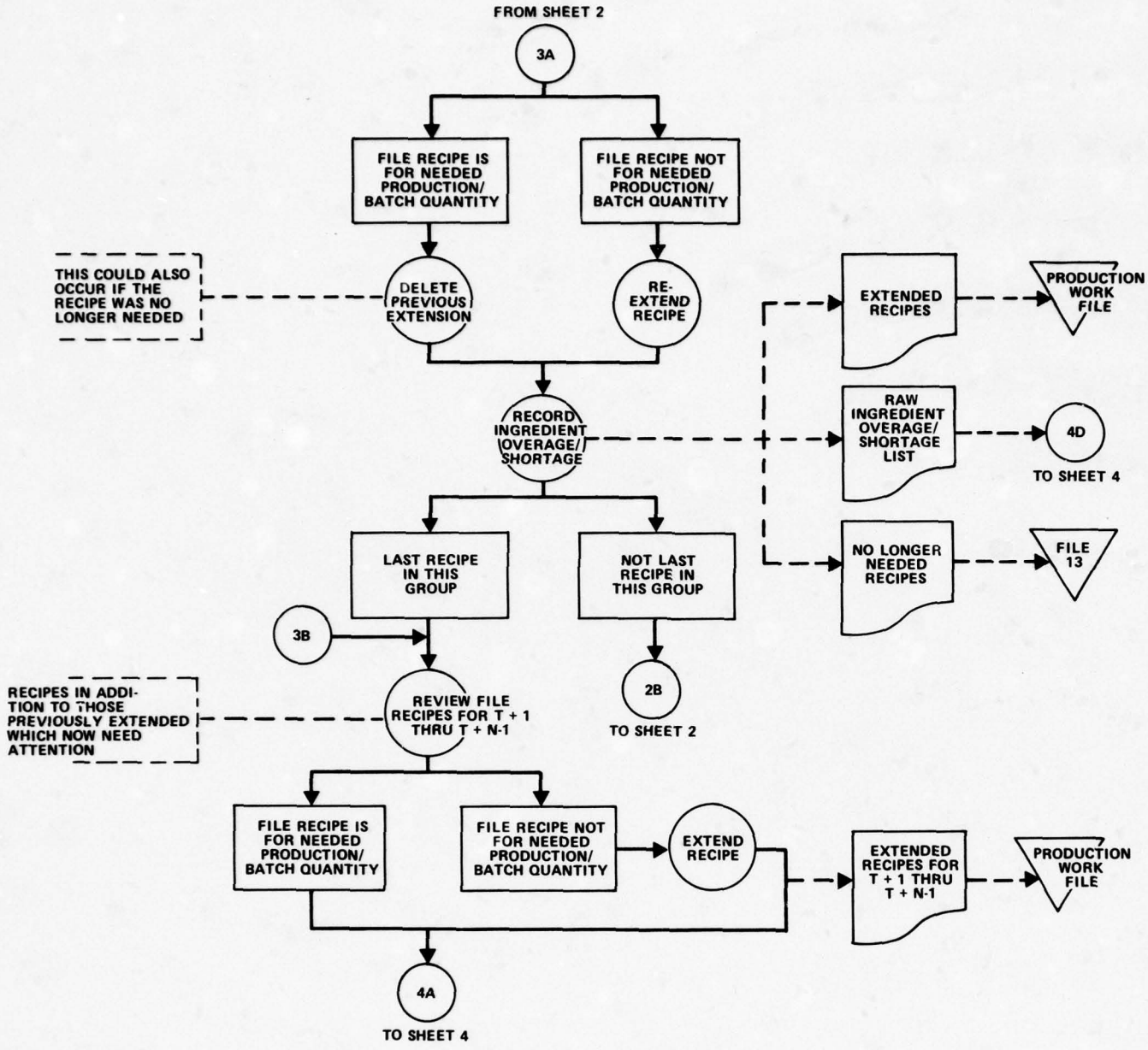
FOOD SERVICE
INVENTORY CONTROL
SHEET 10 OF 10 17 MAR 75



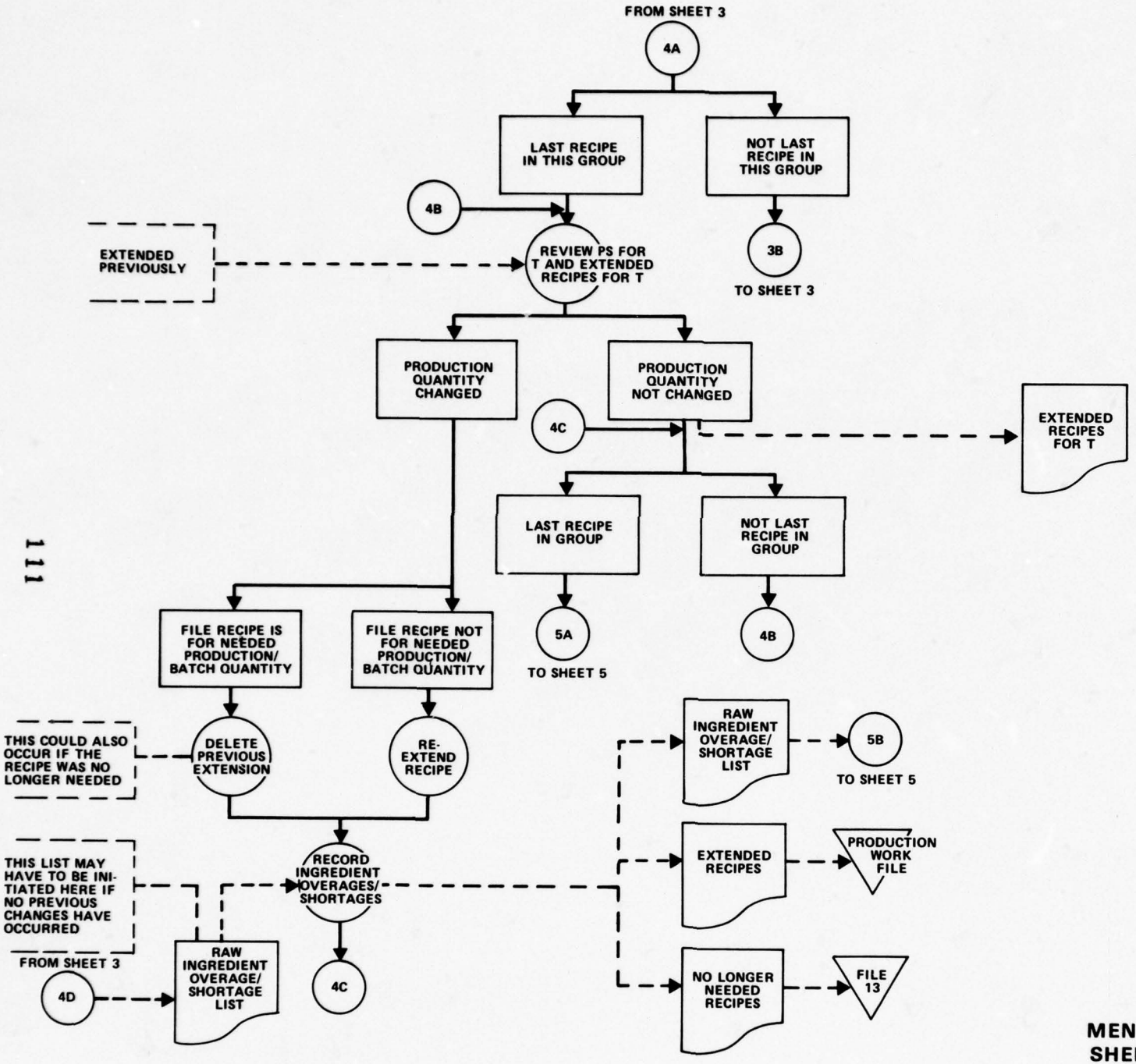
FOOD SERVICE
MENU ITEM PREPARATION
SHEET 1 OF 14 22 FEB 75



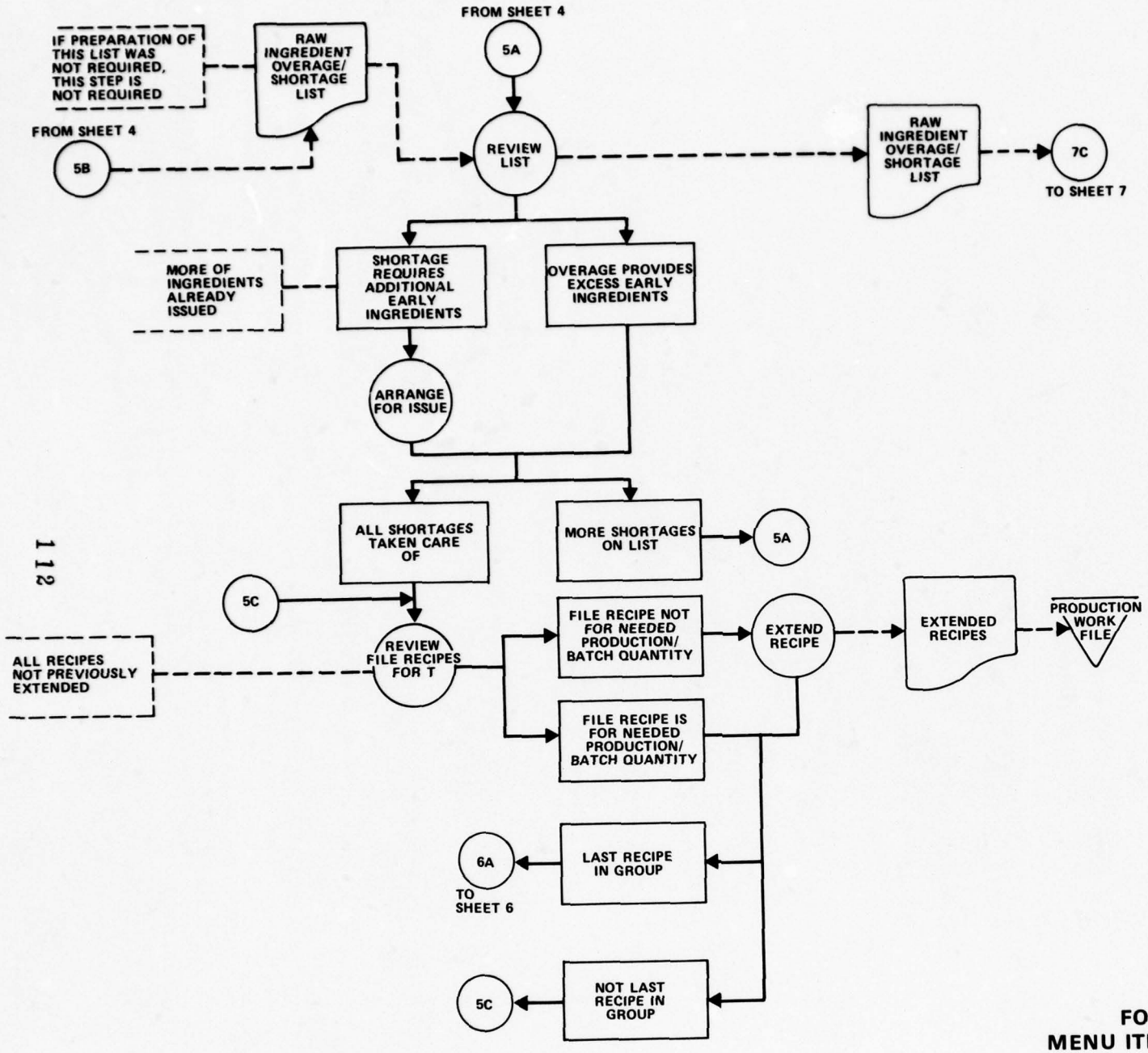
FOOD SERVICE
MENU ITEM PREPARATION
SHEET 2 OF 14 22 FEB 75



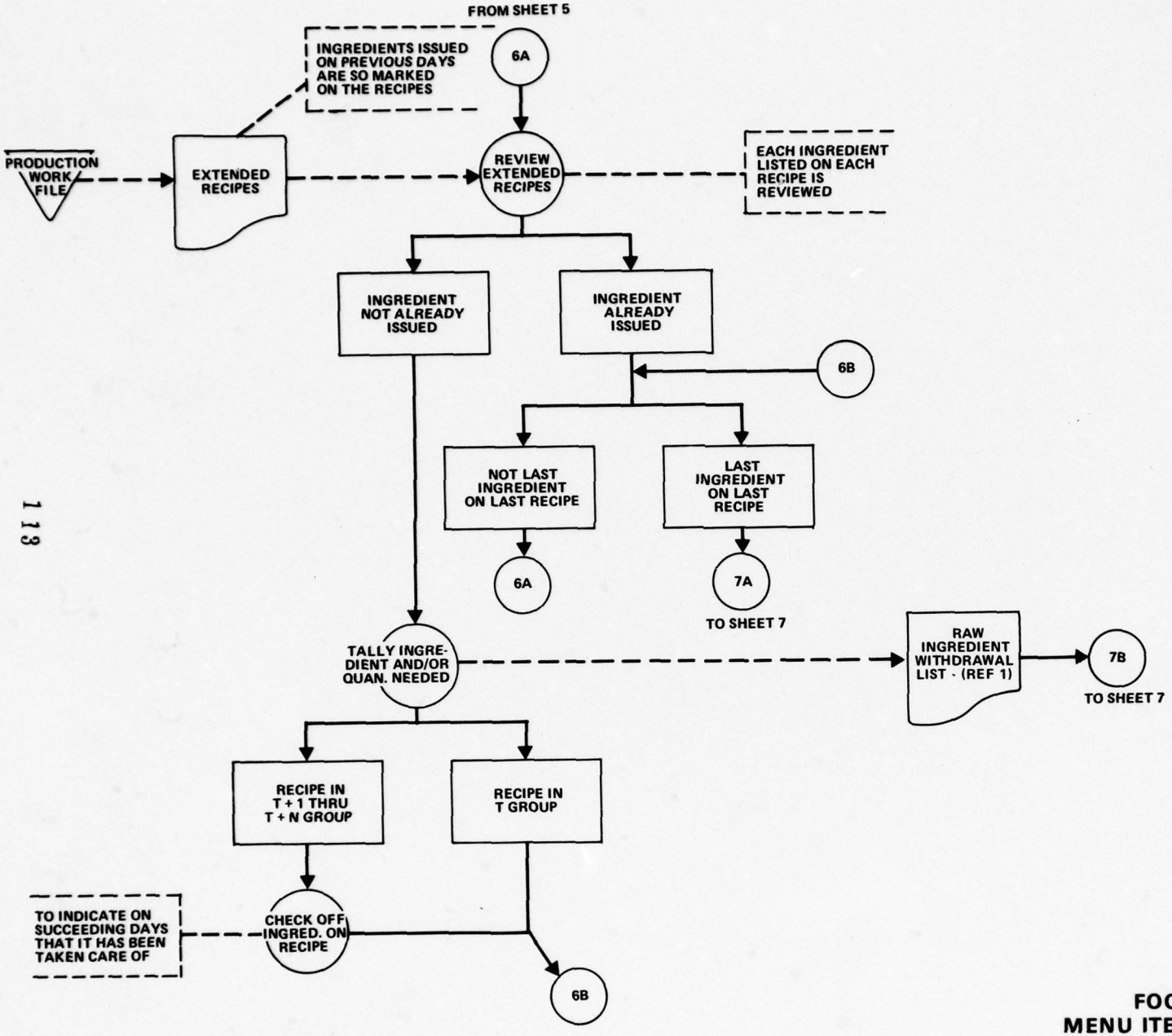
FOOD SERVICE
MENU ITEM PREPARATION
SHEET 3 OF 14 22 FEB 75



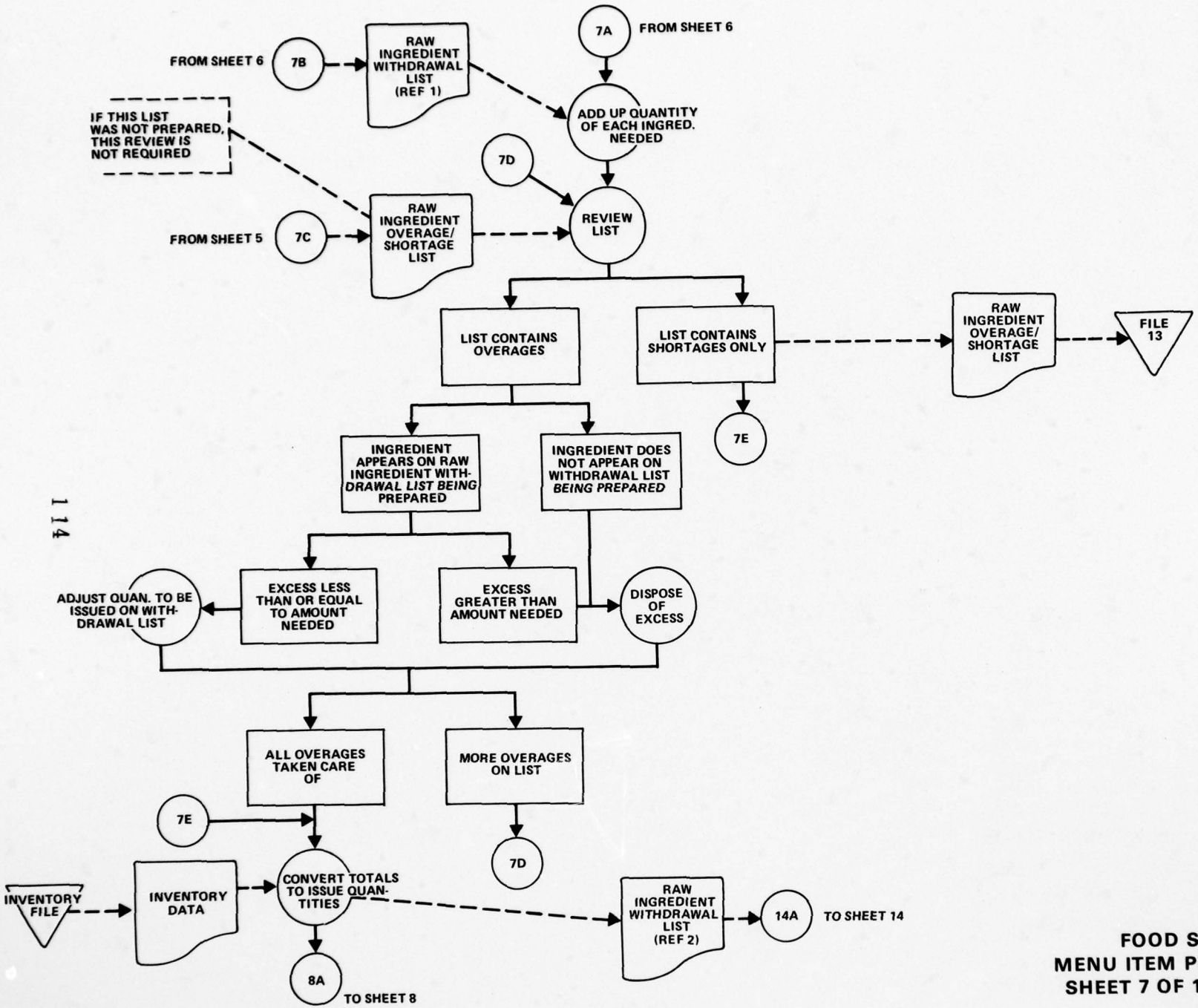
FOOD SERVICE
MENU ITEM PREPARATION
SHEET 4 OF 14 22 FEB 75



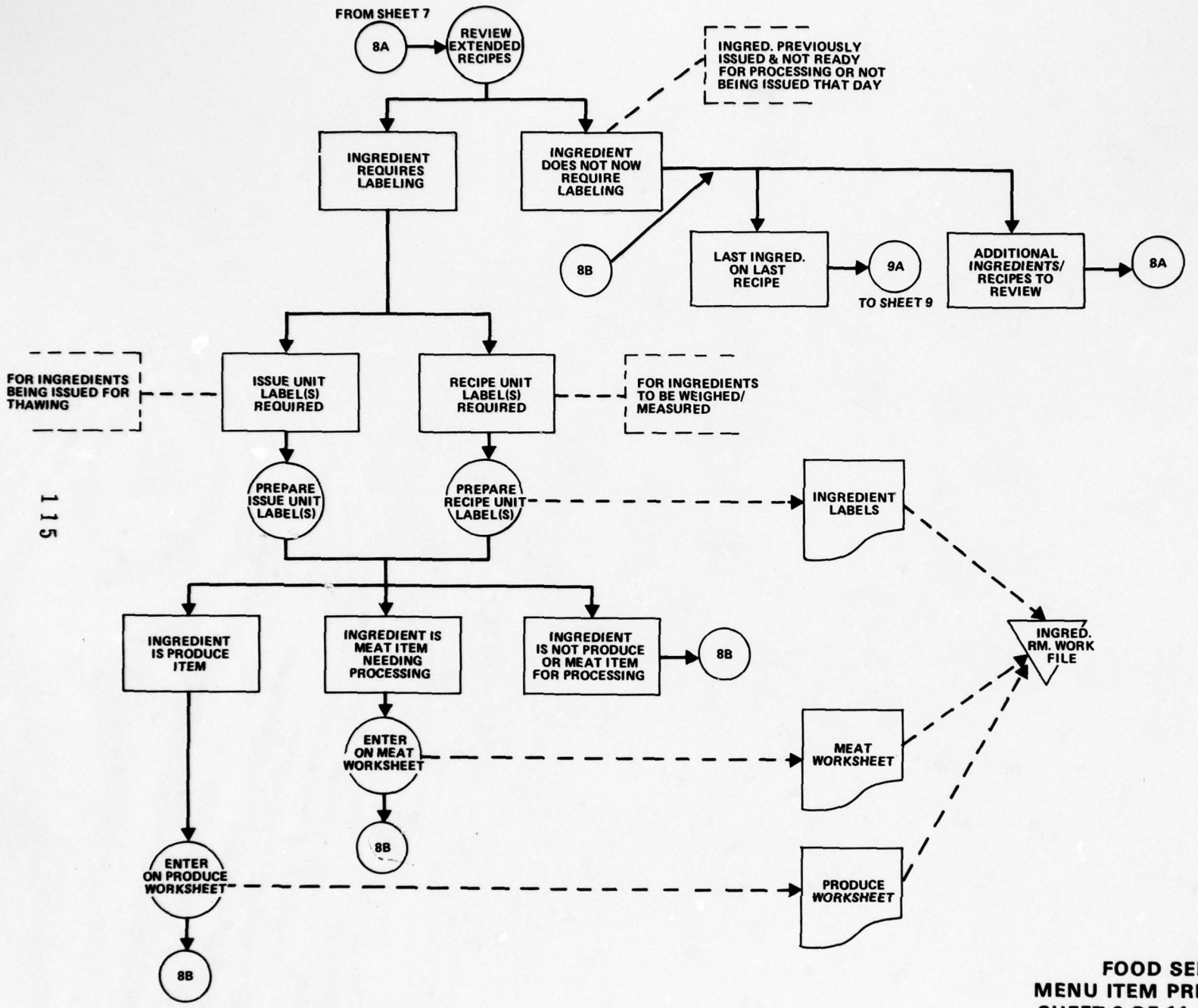
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MENU ITEM PREPARATION
SHEET 5 OF 14 22 FEB 75



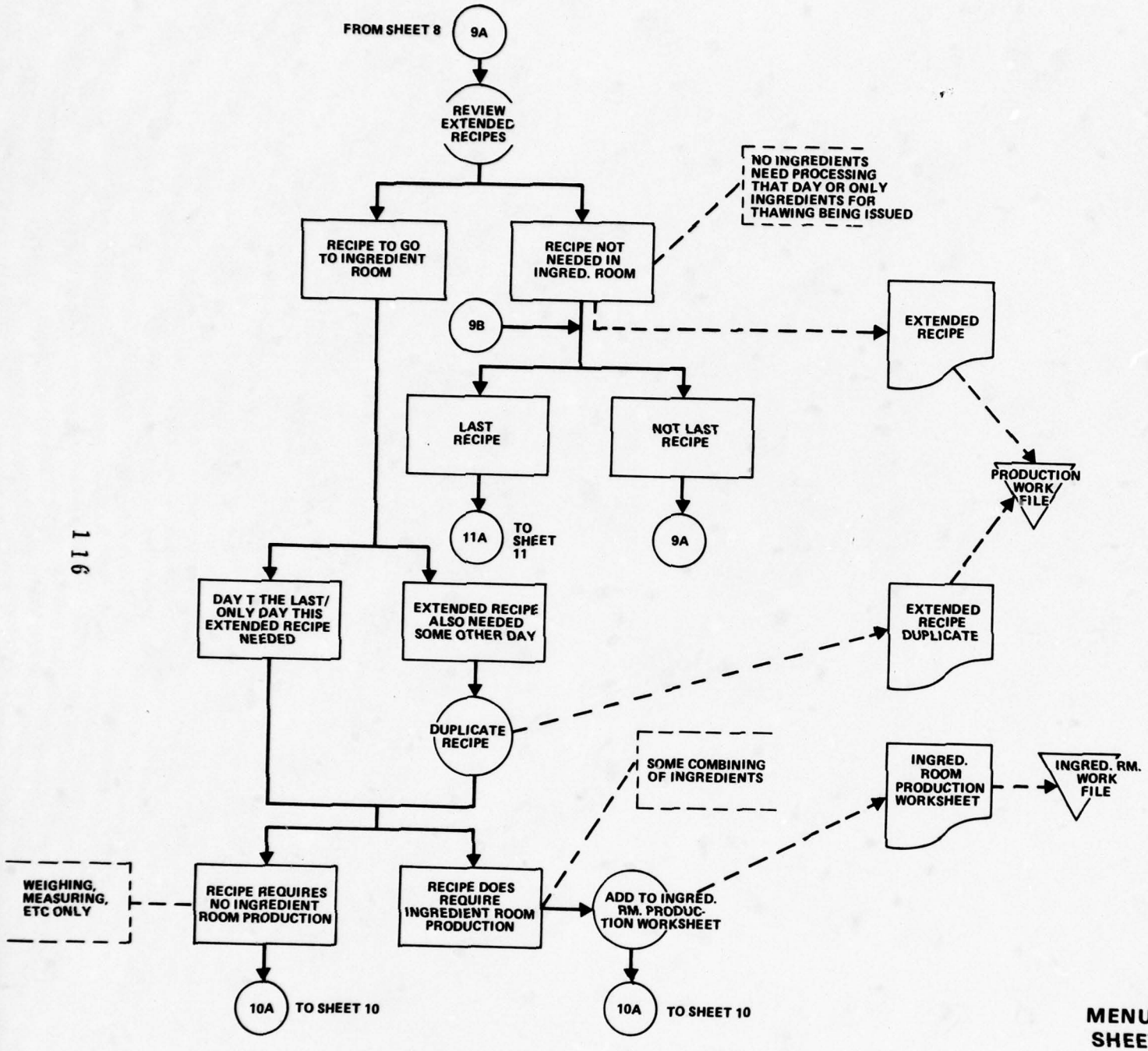
FOOD SERVICE
MENU ITEM PREPARATION
SHEET 6 OF 14 22 FEB 75



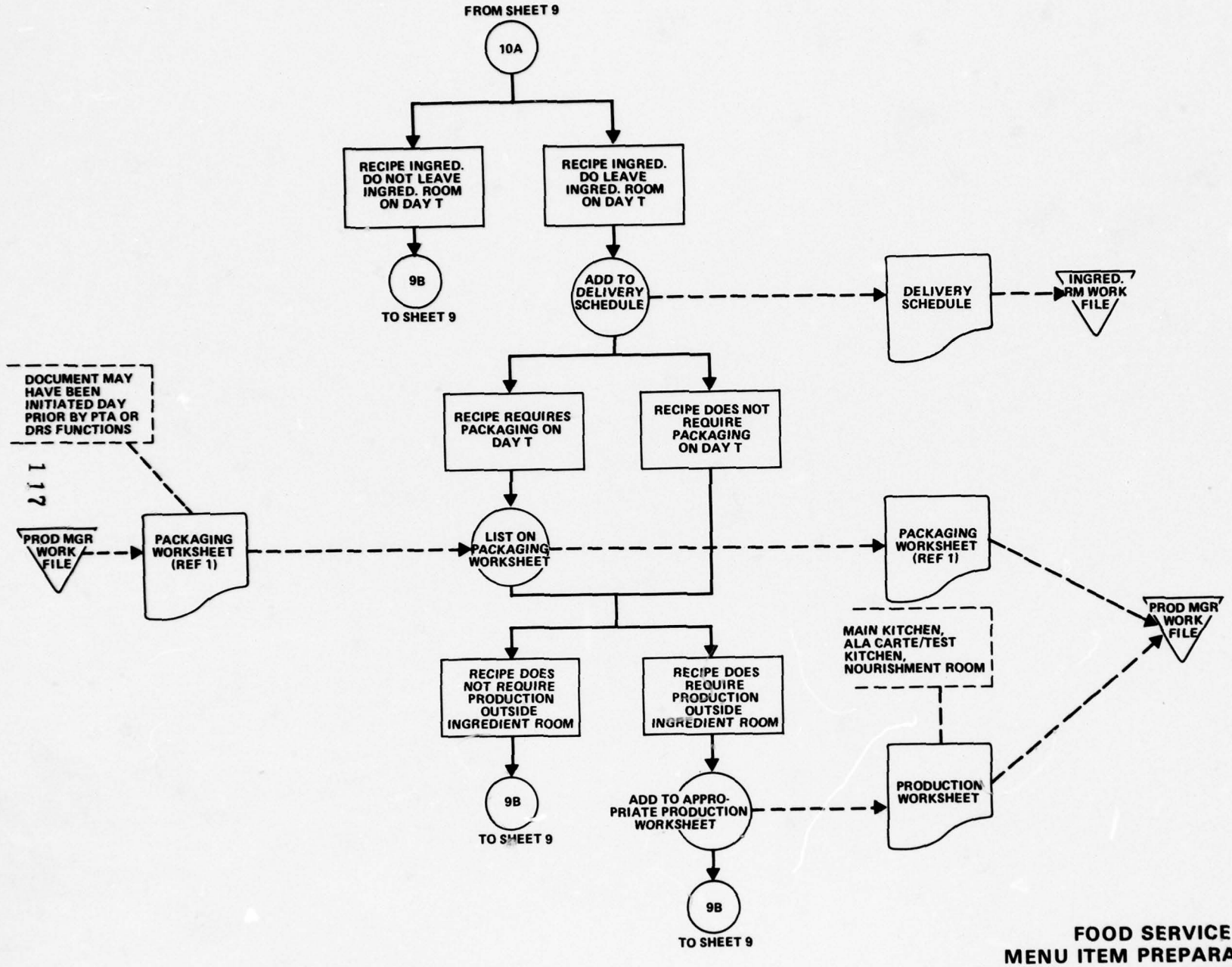
FOOD SERVICE
MENU ITEM PREPARATION
SHEET 7 OF 14 22 FEB 75



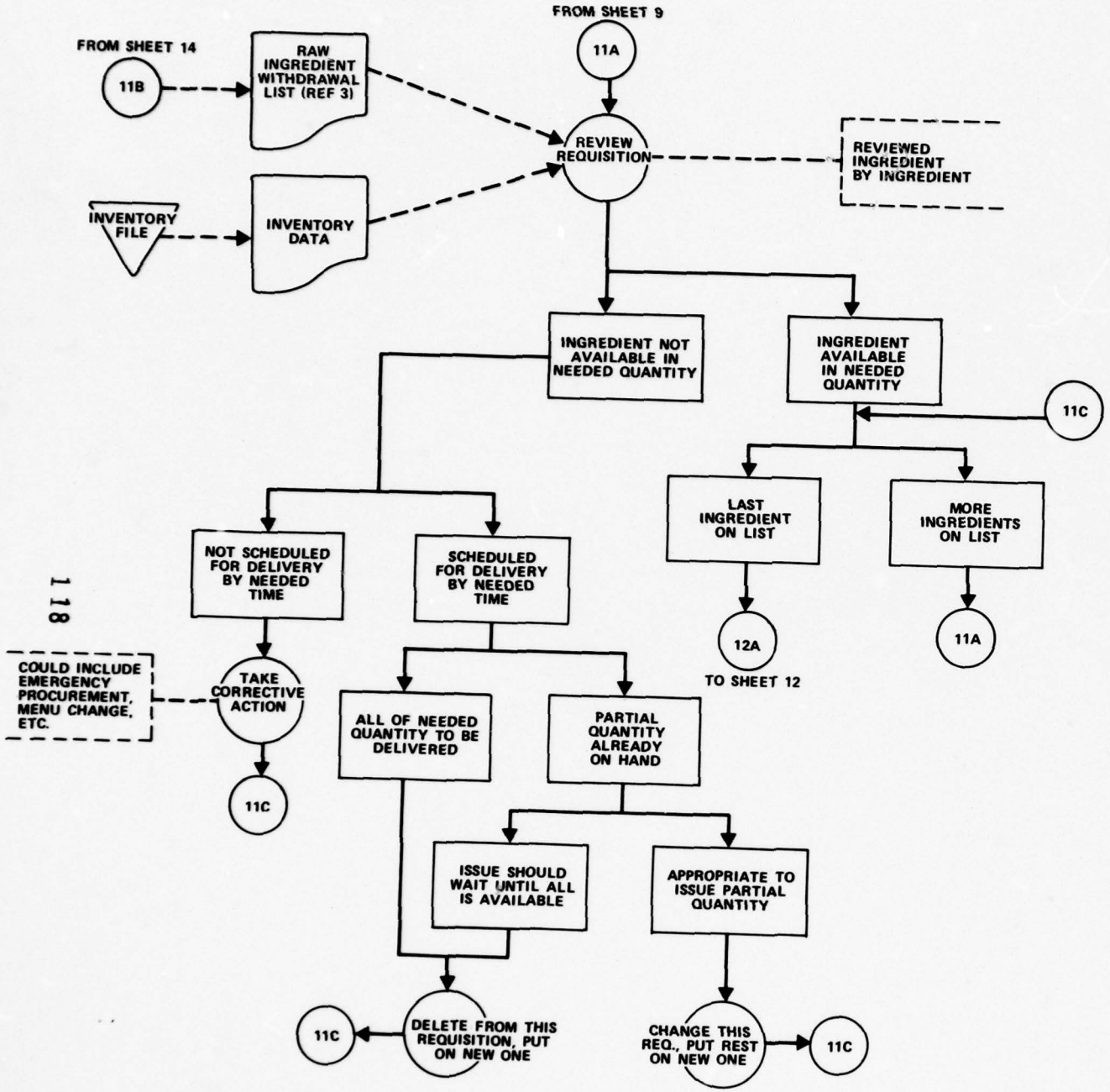
FOOD SERVICE
MENU ITEM PREPARATION
SHEET 8 OF 14 22 FEB 75



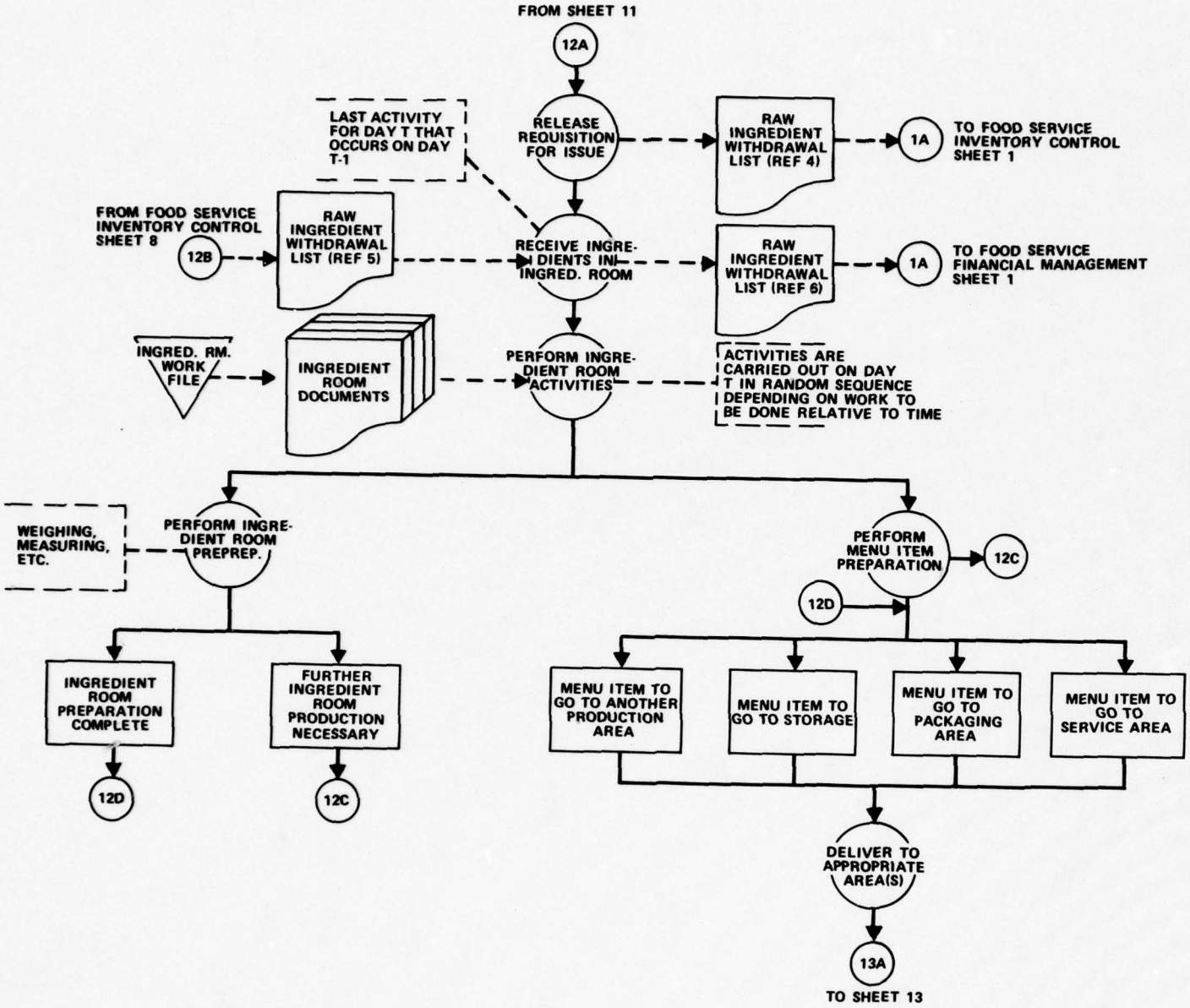
FOOD SERVICE
MENU ITEM PREPARATION
SHEET 9 OF 14 22 FEB 75



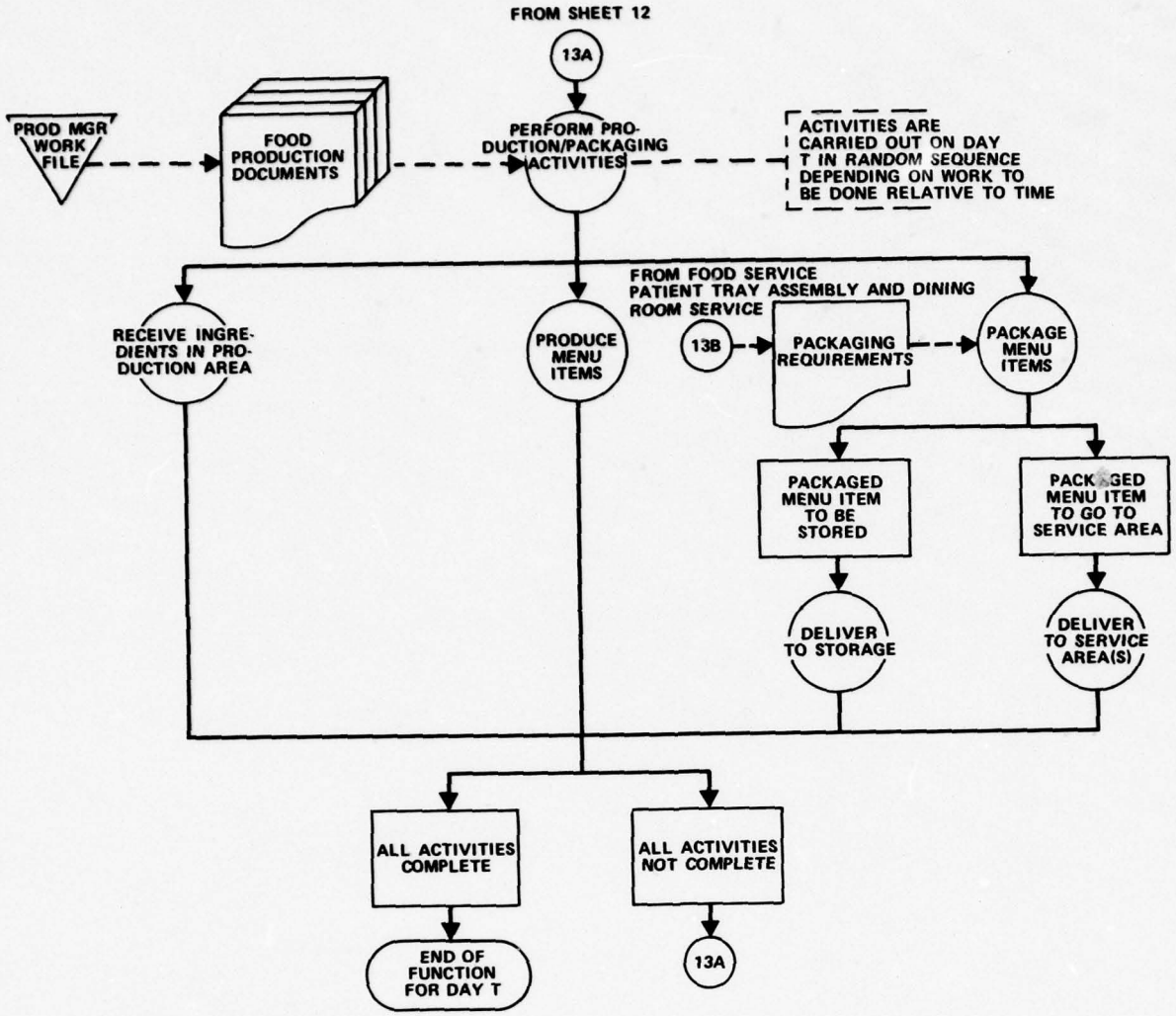
FOOD SERVICE
MENU ITEM PREPARATION
SHEET 10 OF 14 22 FEB 75



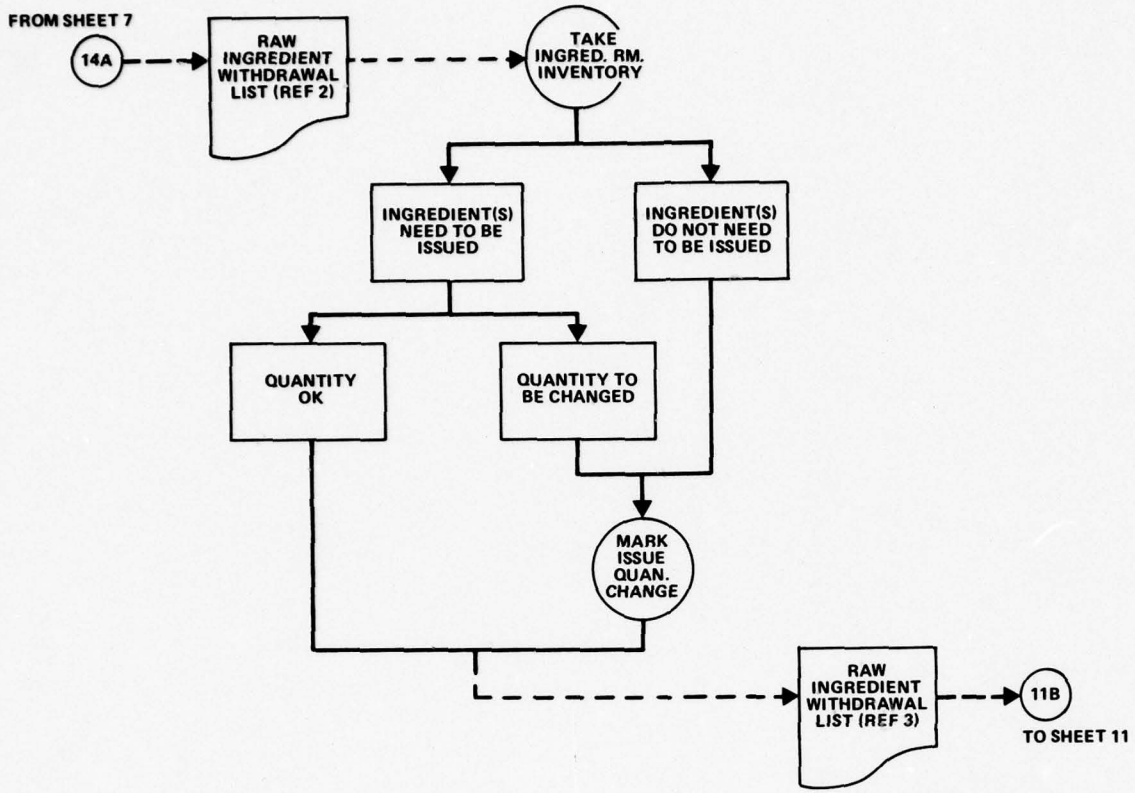
FOOD SERVICE
MENU ITEM PREPARATION
SHEET 11 OF 14 22 FEB 75



FOOD SERVICE
MENU ITEM PREPARATION
SHEET 12 OF 14 22 FEB 75

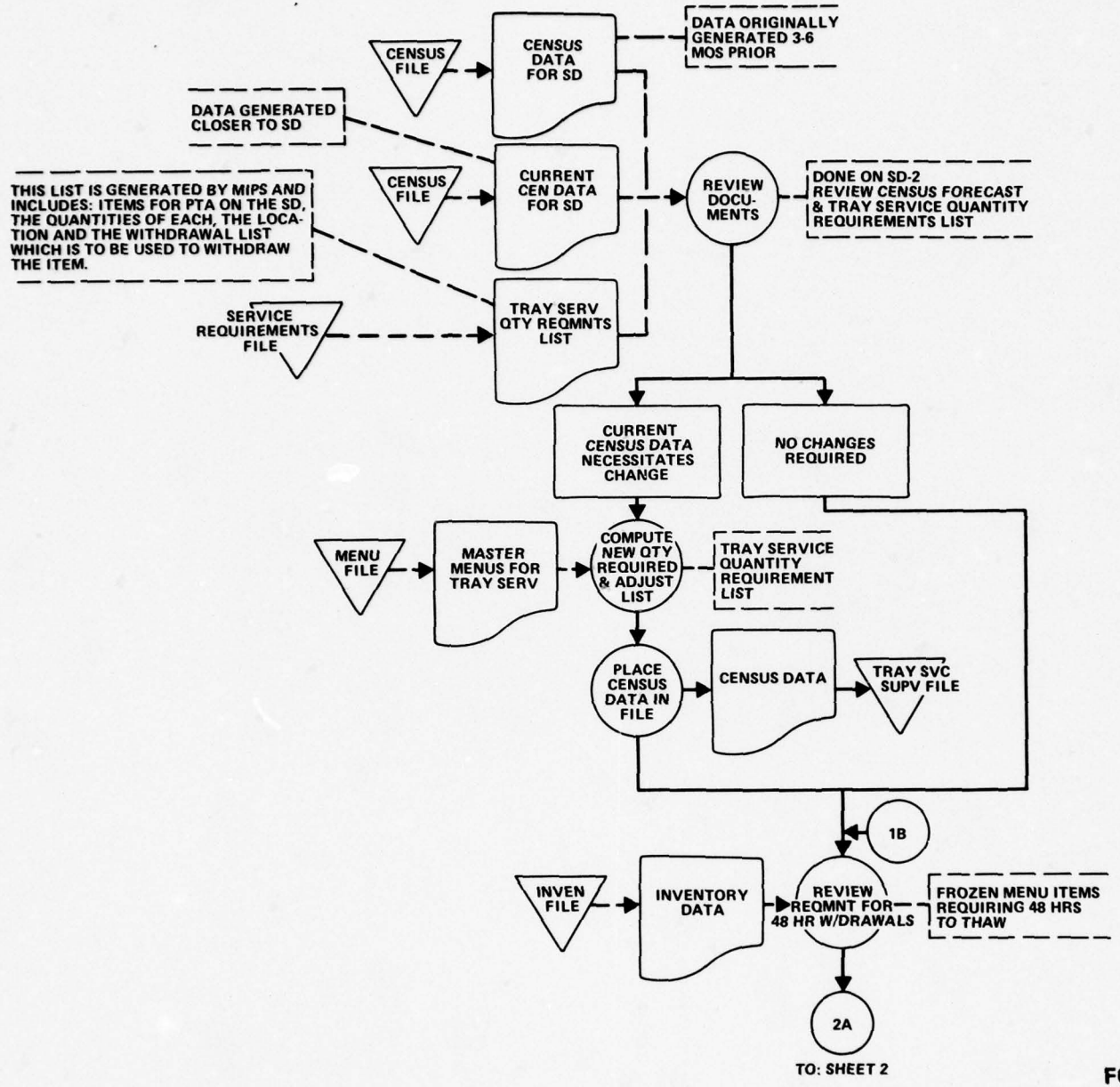


FOOD SERVICE
MENU ITEM PREPARATION
SHEET 13 OF 14 22 FEB 75

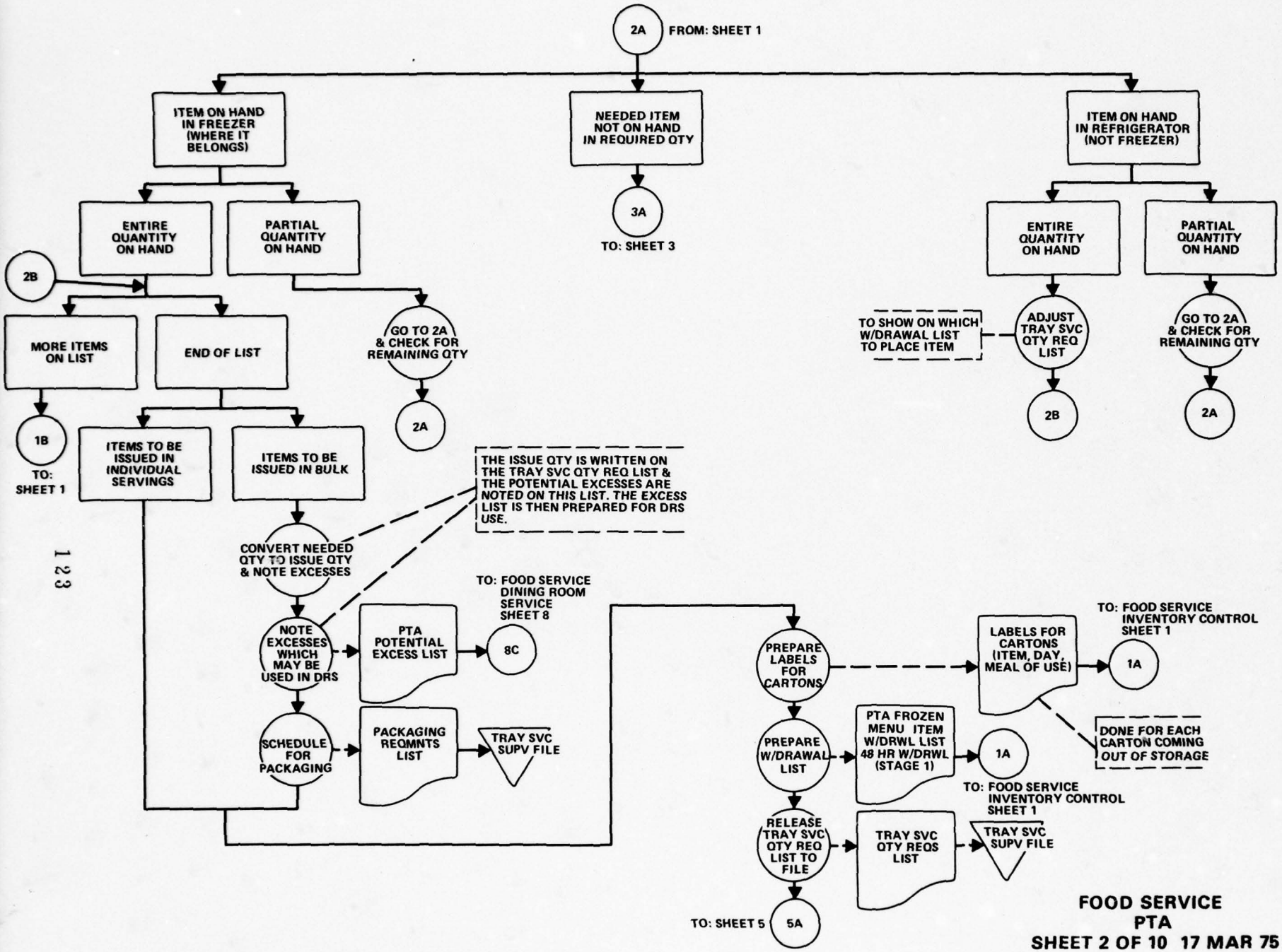


FOOD SERVICE
MENU ITEM PREPARATION
SHEET 14 OF 14 22 FEB 75

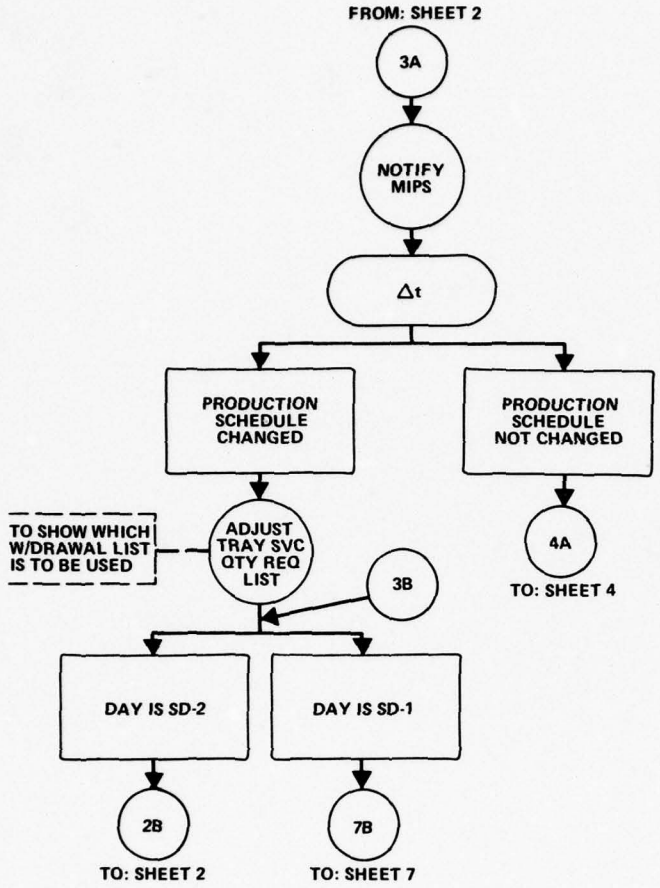
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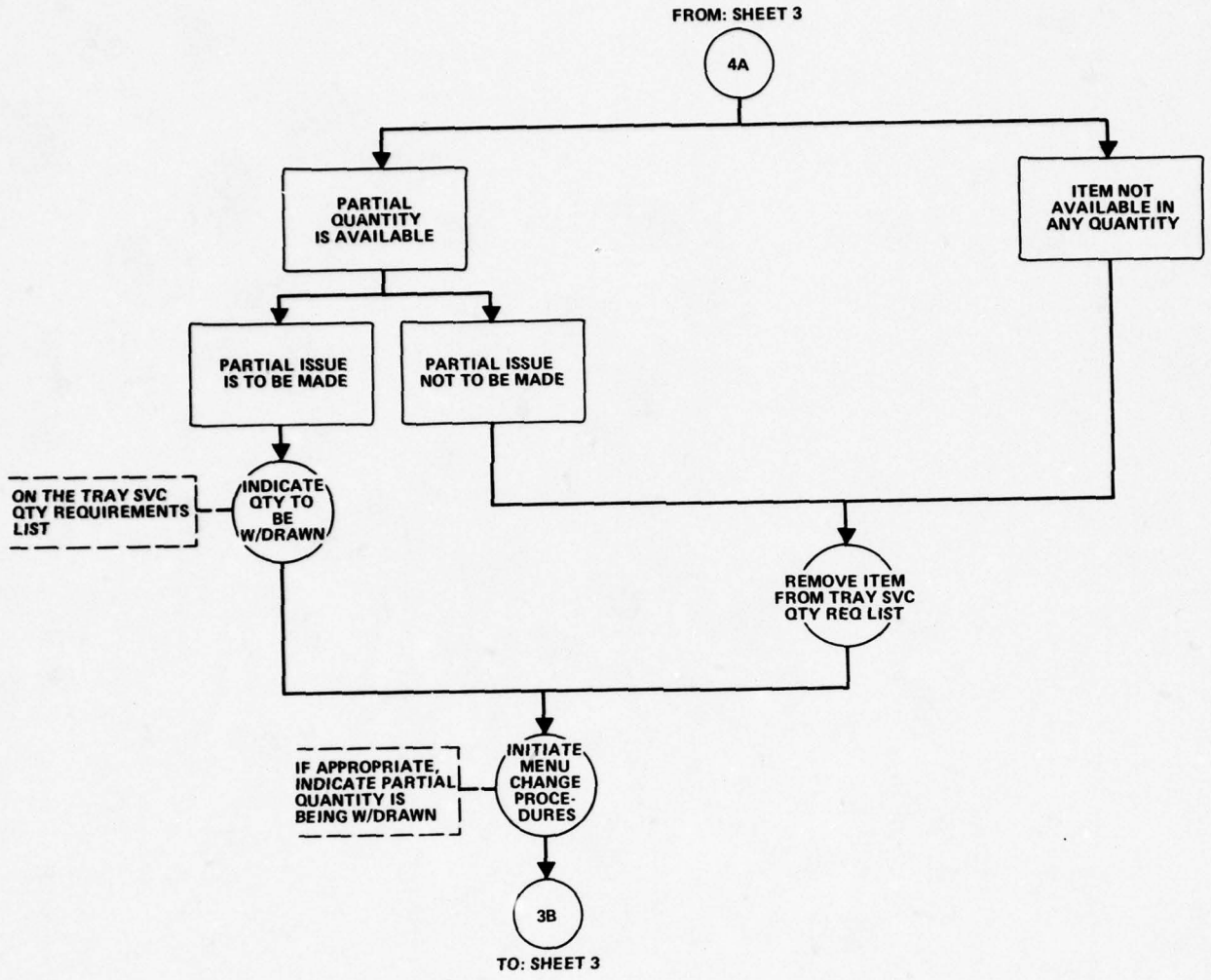
FOOD SERVICE
PATIENT TRAY ASSEMBLY
SHEET 1 OF 10 17 MAR 1975



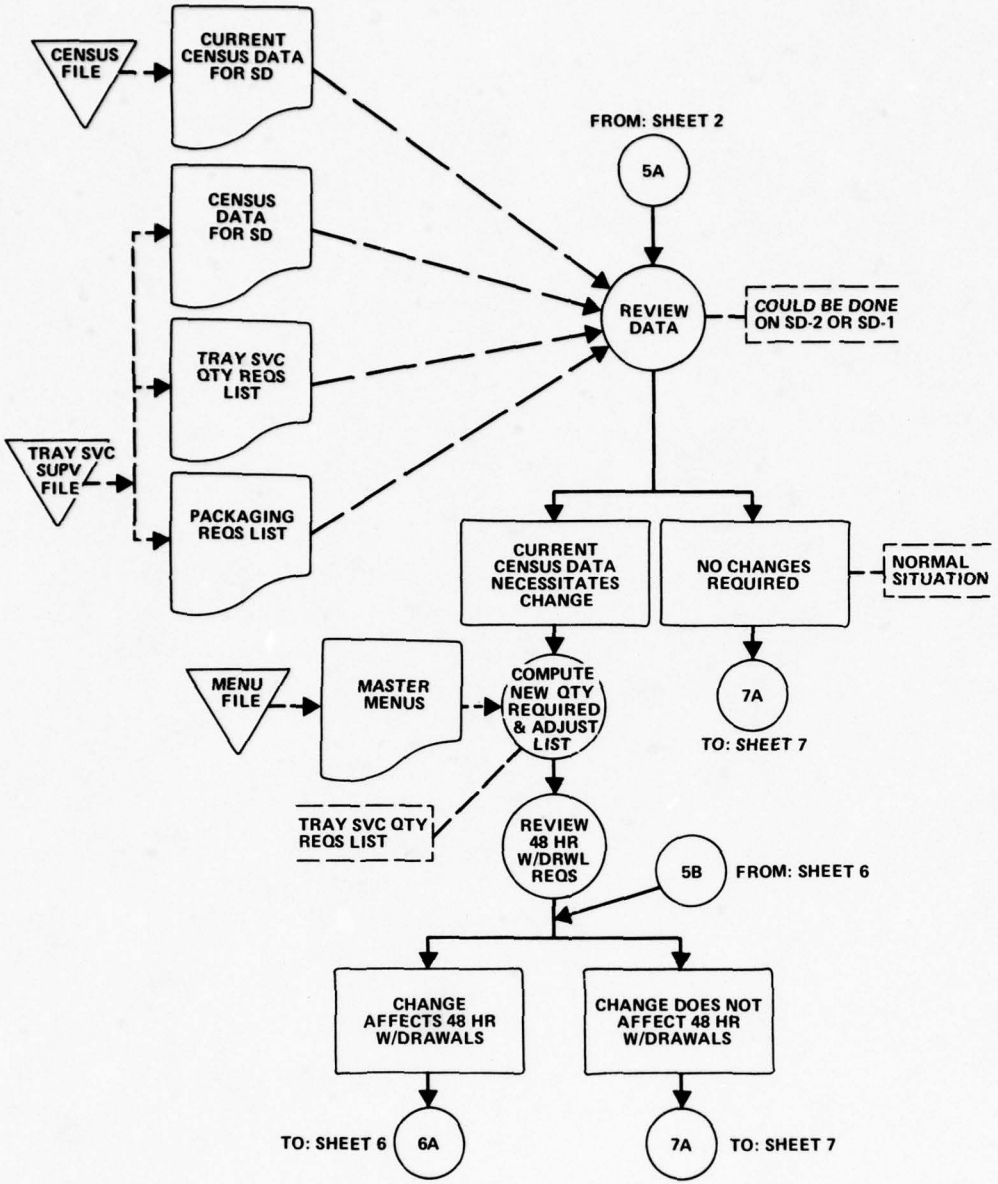
FOOD SERVICE
PTA
SHEET 2 OF 10 17 MAR 75



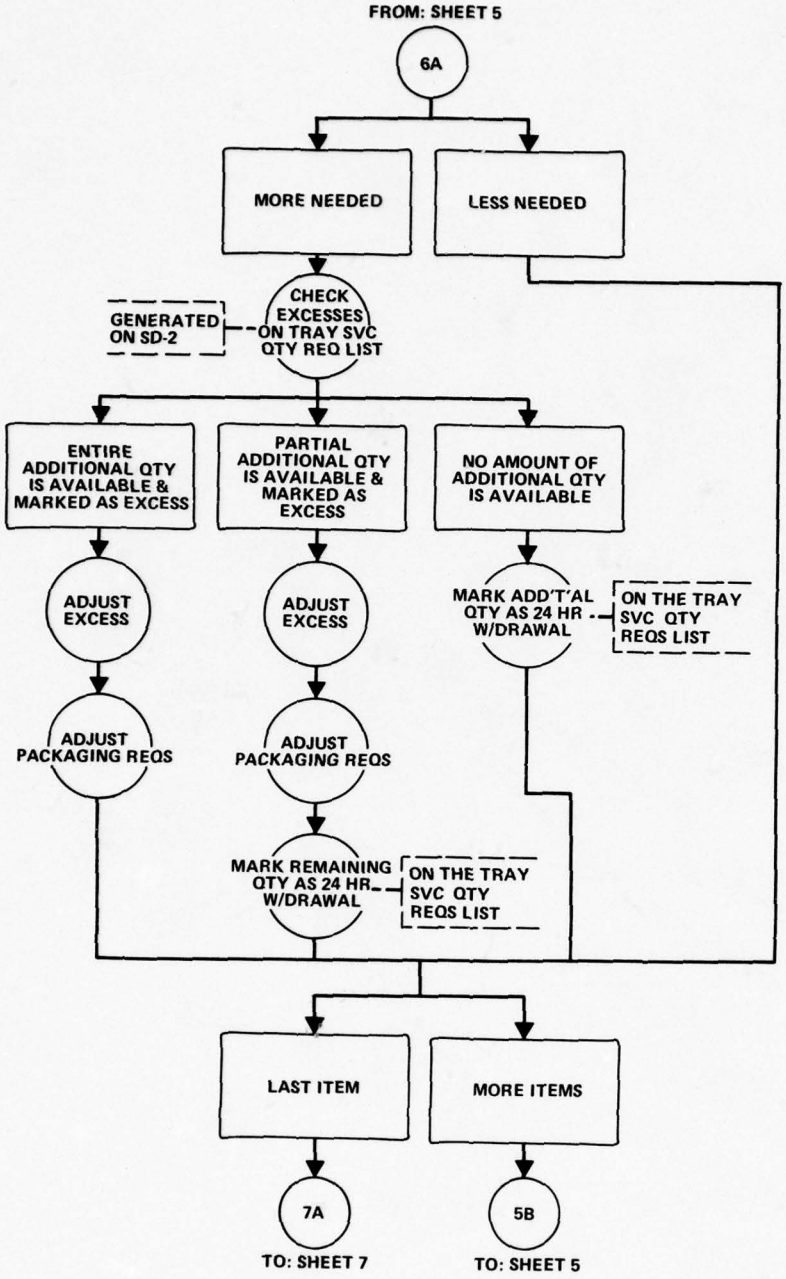
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PTA
SHEET 3 OF 10 17 MAR 1975



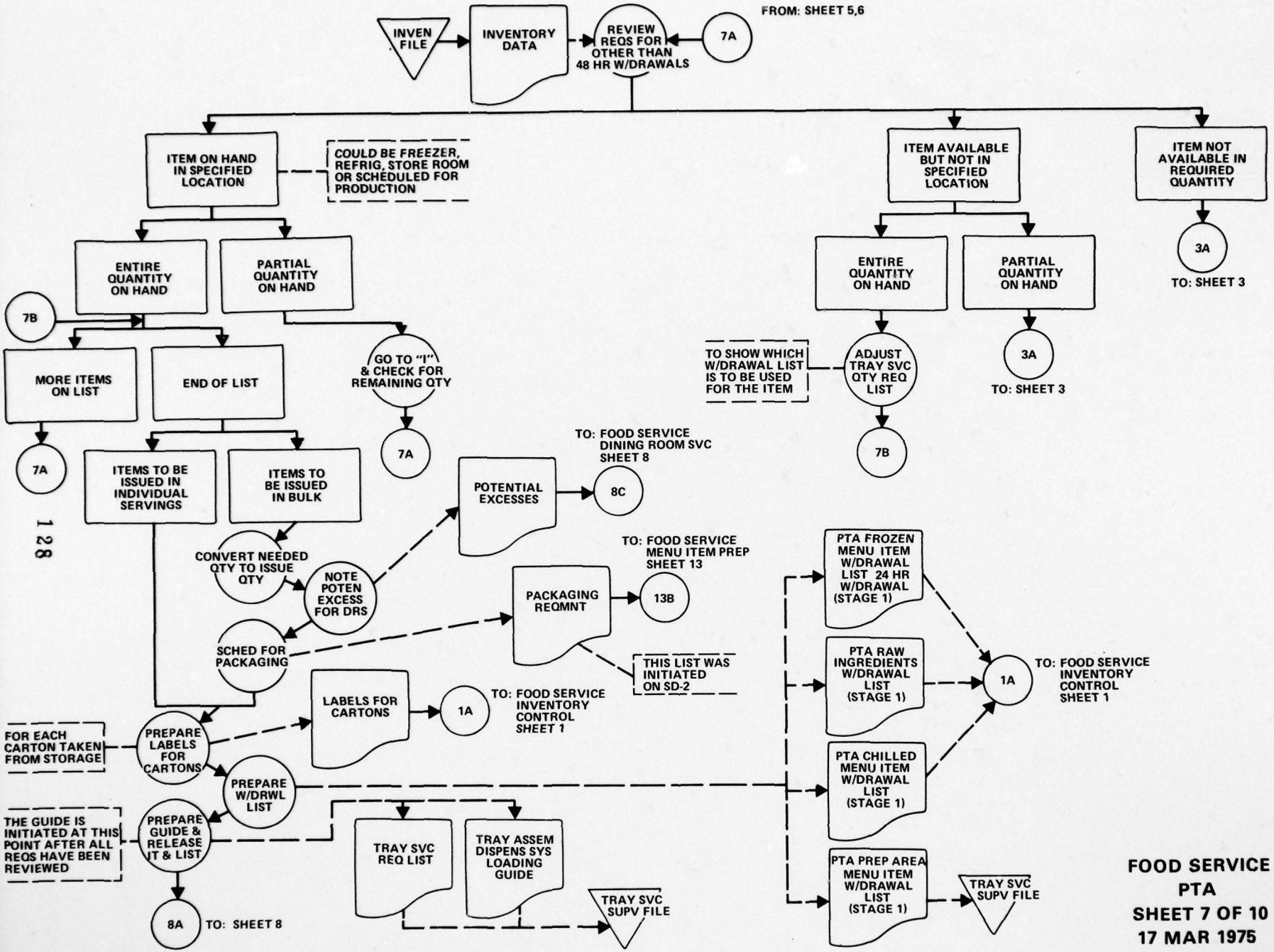
FOOD SERVICE
PTA
SHEET 4 OF 10 17 MAR 1975

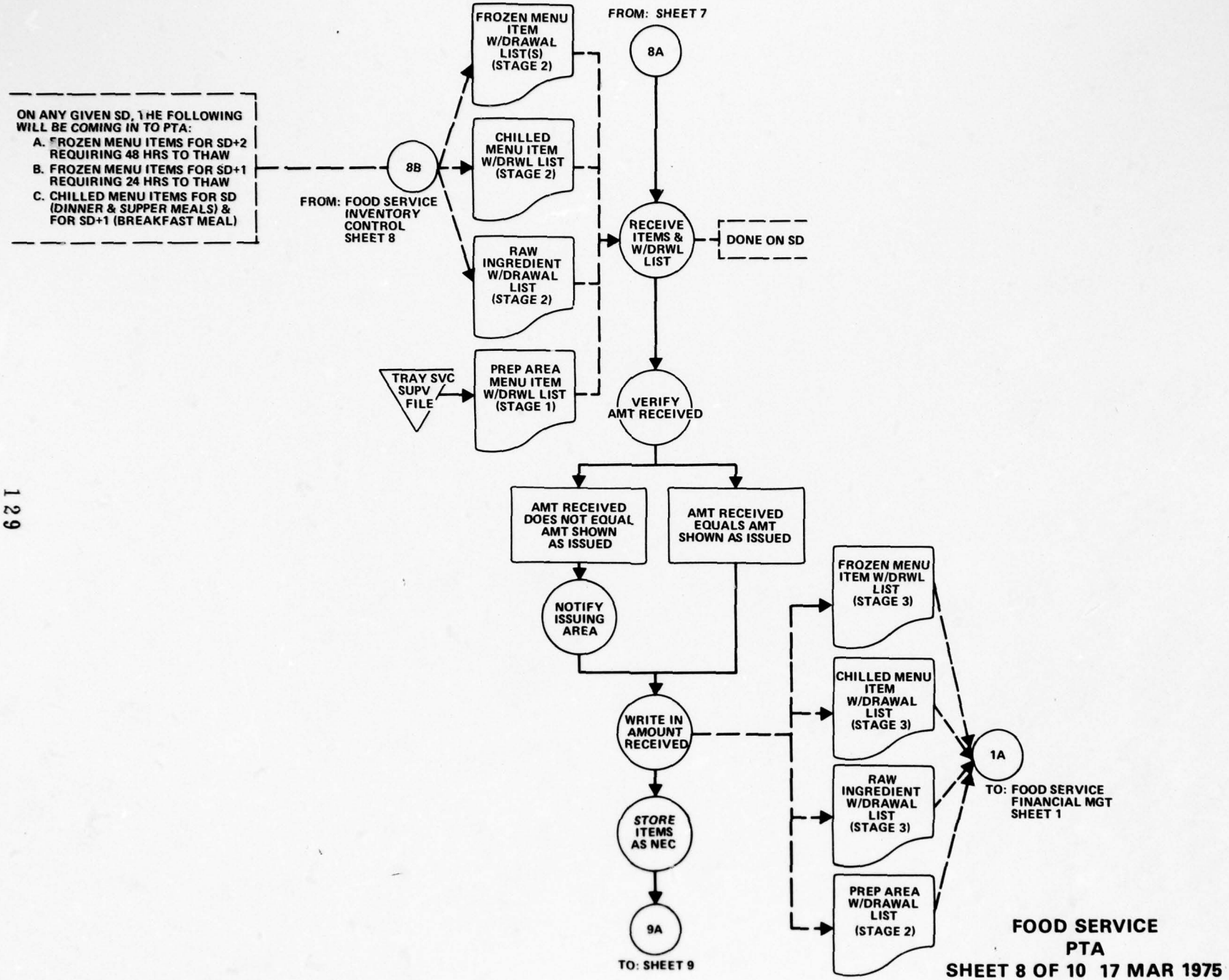


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SHEET 5 OF 10 17 MAR 1975

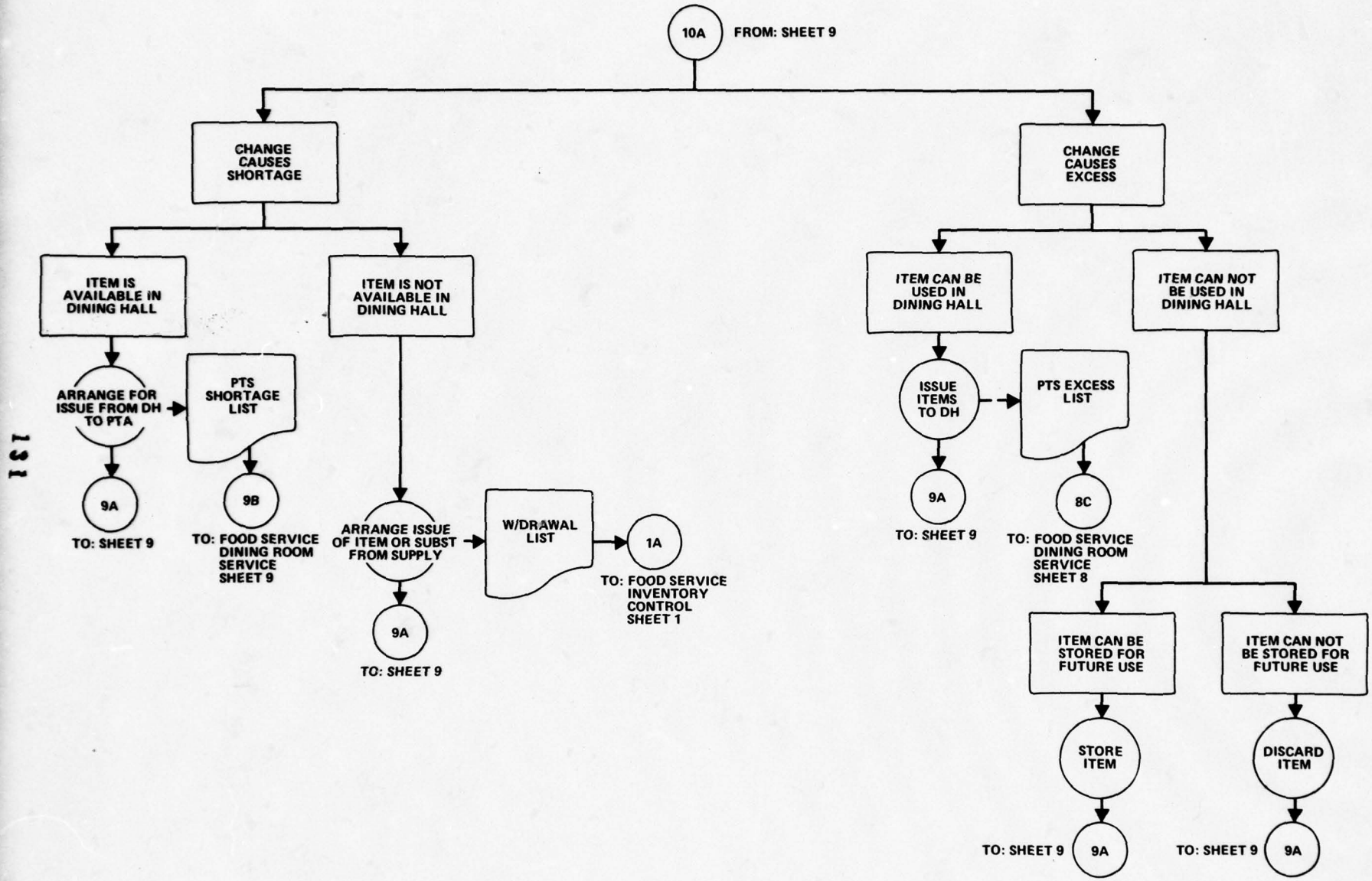


FOOD SERVICE
PTA
SHEET 6 OF 10 17 MAR 1975


INVEN FILE
INVENTORY DATA
REVIEW REQS FOR OTHER THAN 48 HR W/DRAWALS
7A
FROM: SHEET 5,6
ITEM ON HAND IN SPECIFIED LOCATION
COULD BE FREEZER, REFRIG, STORE ROOM OR SCHEDULED FOR PRODUCTION
ITEM AVAILABLE BUT NOT IN SPECIFIED LOCATION
ITEM NOT AVAILABLE IN REQUIRED QUANTITY
3A
TO: SHEET 3
ENTIRE QUANTITY ON HAND
PARTIAL QUANTITY ON HAND
7B
MORE ITEMS ON LIST
END OF LIST
GO TO "I" & CHECK FOR REMAINING QTY
7A
ENTIRE QUANTITY ON HAND
PARTIAL QUANTITY ON HAND
TO SHOW WHICH W/DRAWAL LIST IS TO BE USED FOR THE ITEM
ADJUST TRAY SVC QTY REQ LIST
3A
TO: SHEET 3
7B
7A
ITEMS TO BE ISSUED IN INDIVIDUAL SERVINGS
ITEMS TO BE ISSUED IN BULK
TO: FOOD SERVICE DINING ROOM SVC SHEET 8
POTENTIAL EXCESSES
8C
CONVERT NEEDED QTY TO ISSUE QTY
NOTE POTEN EXCESS FOR DRS
TO: FOOD SERVICE MENU ITEM PREP SHEET 13
PACKAGING REQMNT
13B
SCHED FOR PACKAGING
THIS LIST WAS INITIATED ON SD-2
LABELS FOR CARTONS
1A
TO: FOOD SERVICE INVENTORY CONTROL SHEET 1
FOR EACH CARTON TAKEN FROM STORAGE
PREPARE LABELS FOR CARTONS
PREPARE W/DRWL LIST
THE GUIDE IS INITIATED AT THIS POINT AFTER ALL REQS HAVE BEEN REVIEWED
PREPARE GUIDE & RELEASE IT & LIST
8A
TO: SHEET 8
TRAY SVC REQ LIST
TRAY ASSEM DISPENS SYS LOADING GUIDE
TRAY SVC SUPV FILE
PTA FROZEN MENU ITEM W/DRAWAL LIST 24 HR W/DRAWAL (STAGE 1)
PTA RAW INGREDIENTS W/DRAWAL LIST (STAGE 1)
PTA CHILLED MENU ITEM W/DRAWAL LIST (STAGE 1)
PTA PREP AREA MENU ITEM W/DRAWAL LIST (STAGE 1)
1A
TO: FOOD SERVICE INVENTORY CONTROL SHEET 1
TRAY SVC SUPV FILE
FOOD SERVICE
PTA
SHEET 7 OF 10
17 MAR 1975

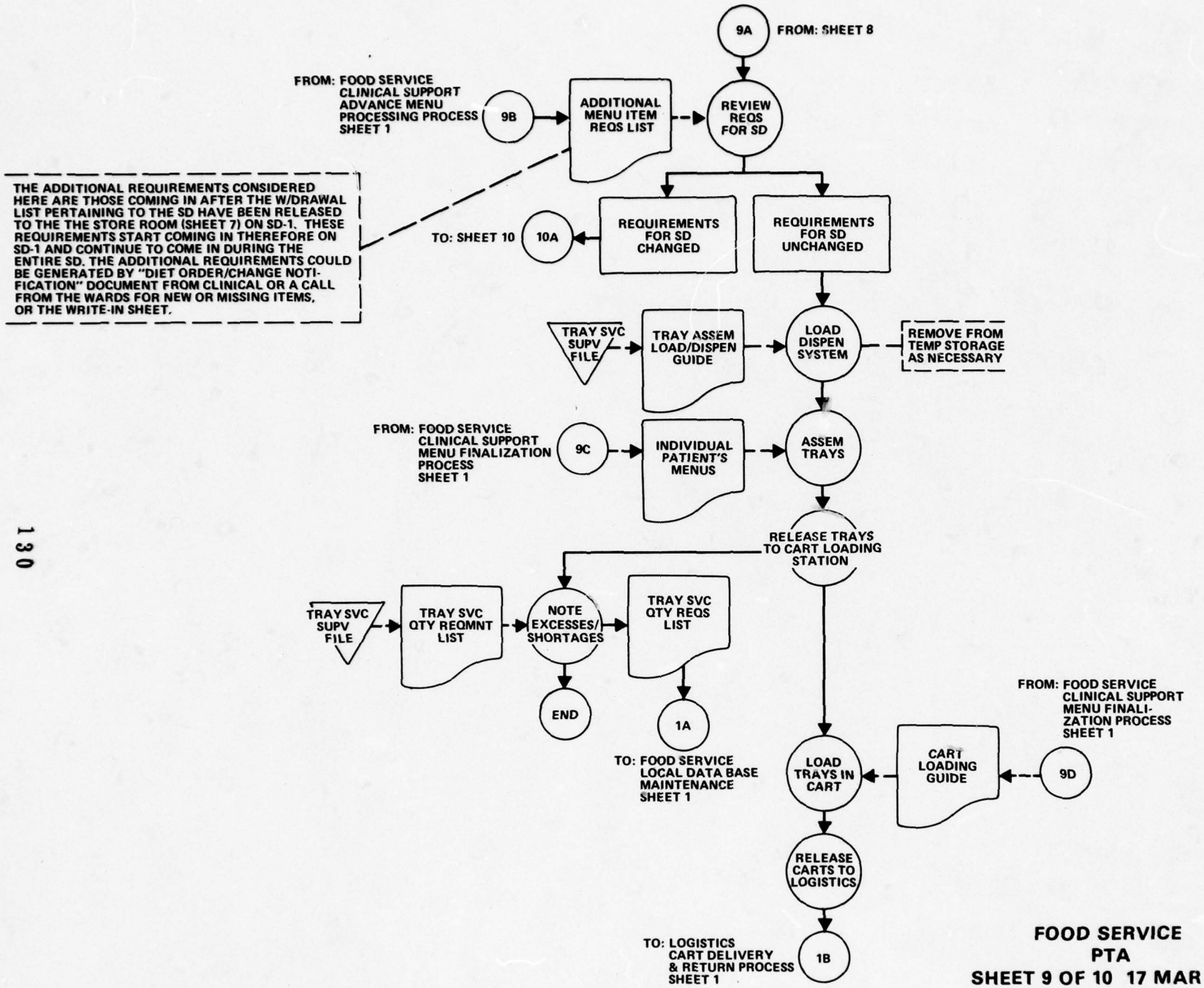


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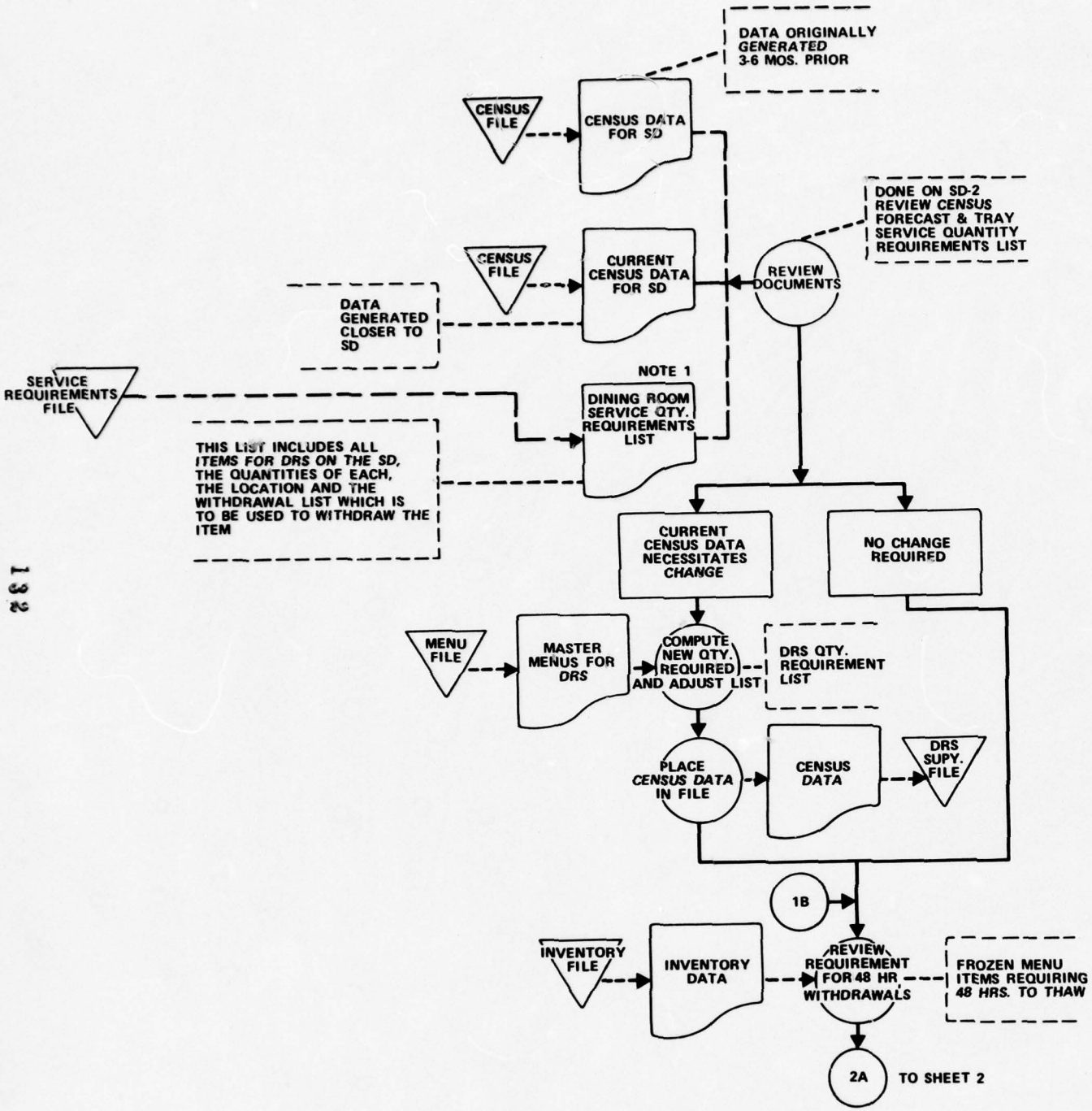


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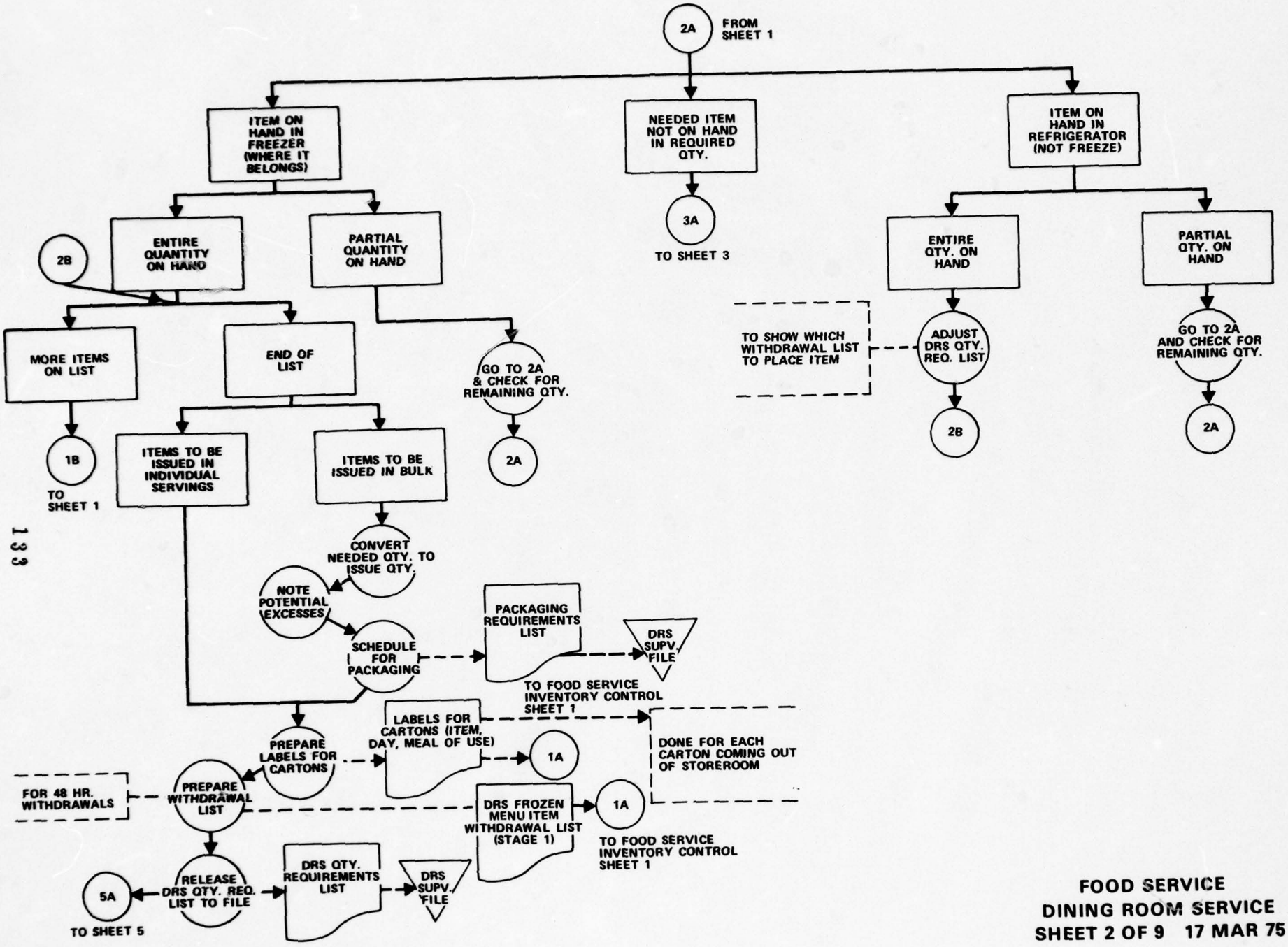
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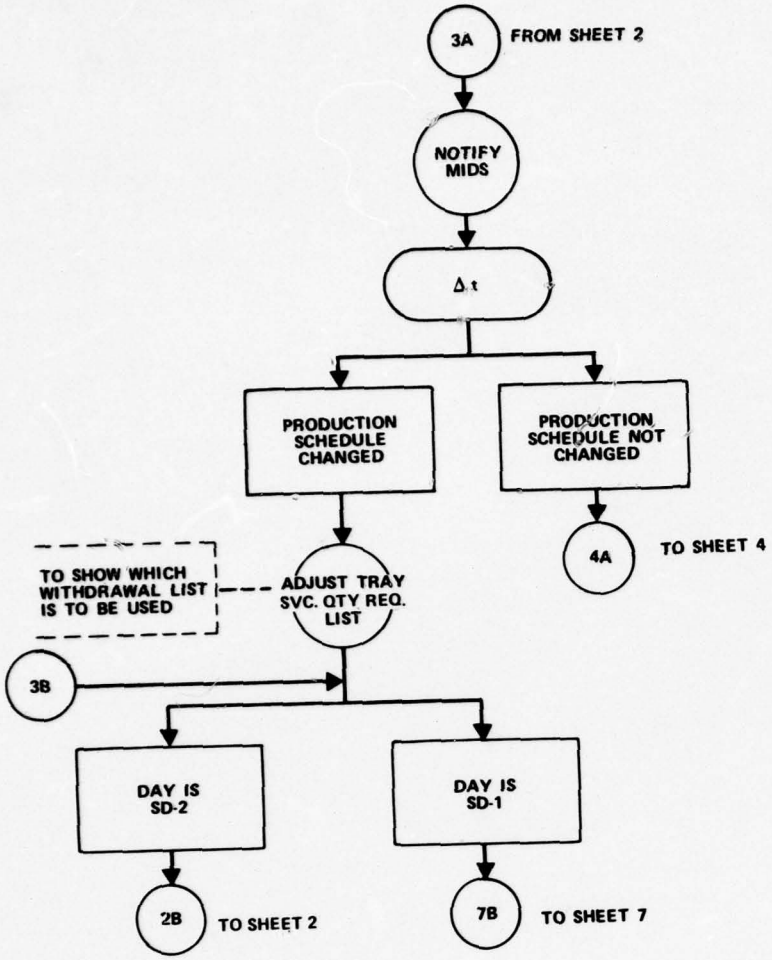
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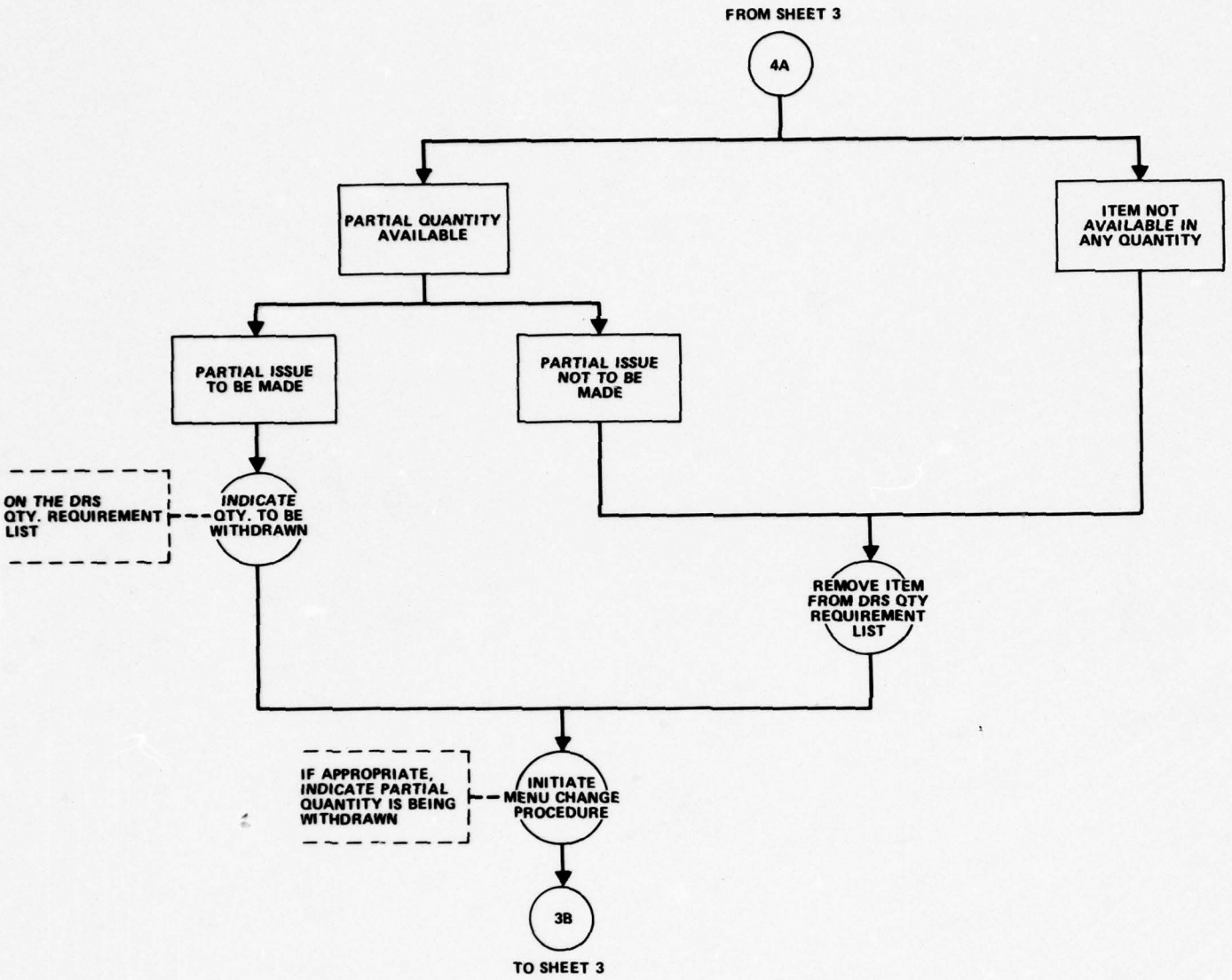
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DINING ROOM SERVICE
SHEET 1 OF 9 17 MAR 75



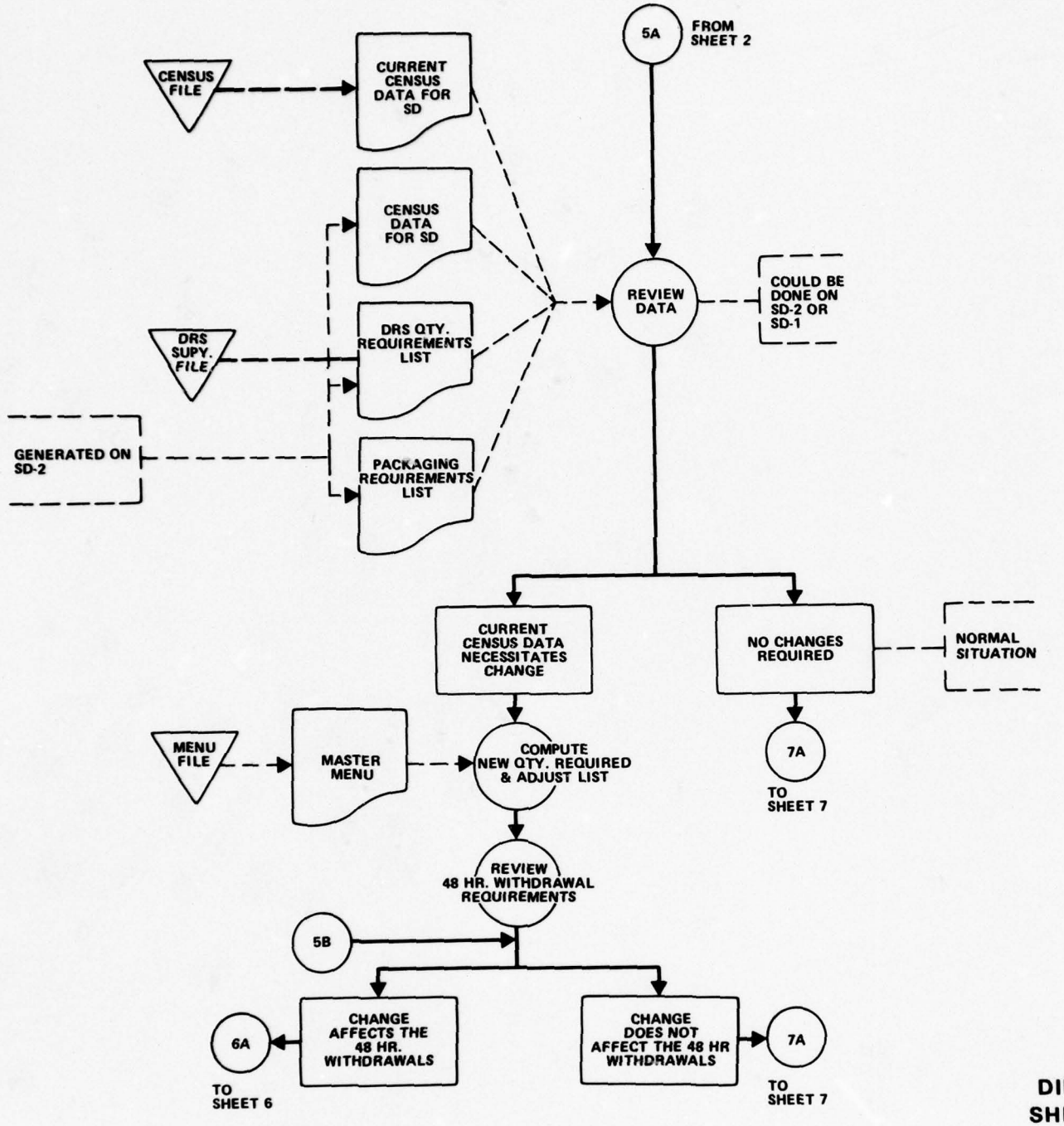
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SHEET 2 OF 9 17 MAR 75



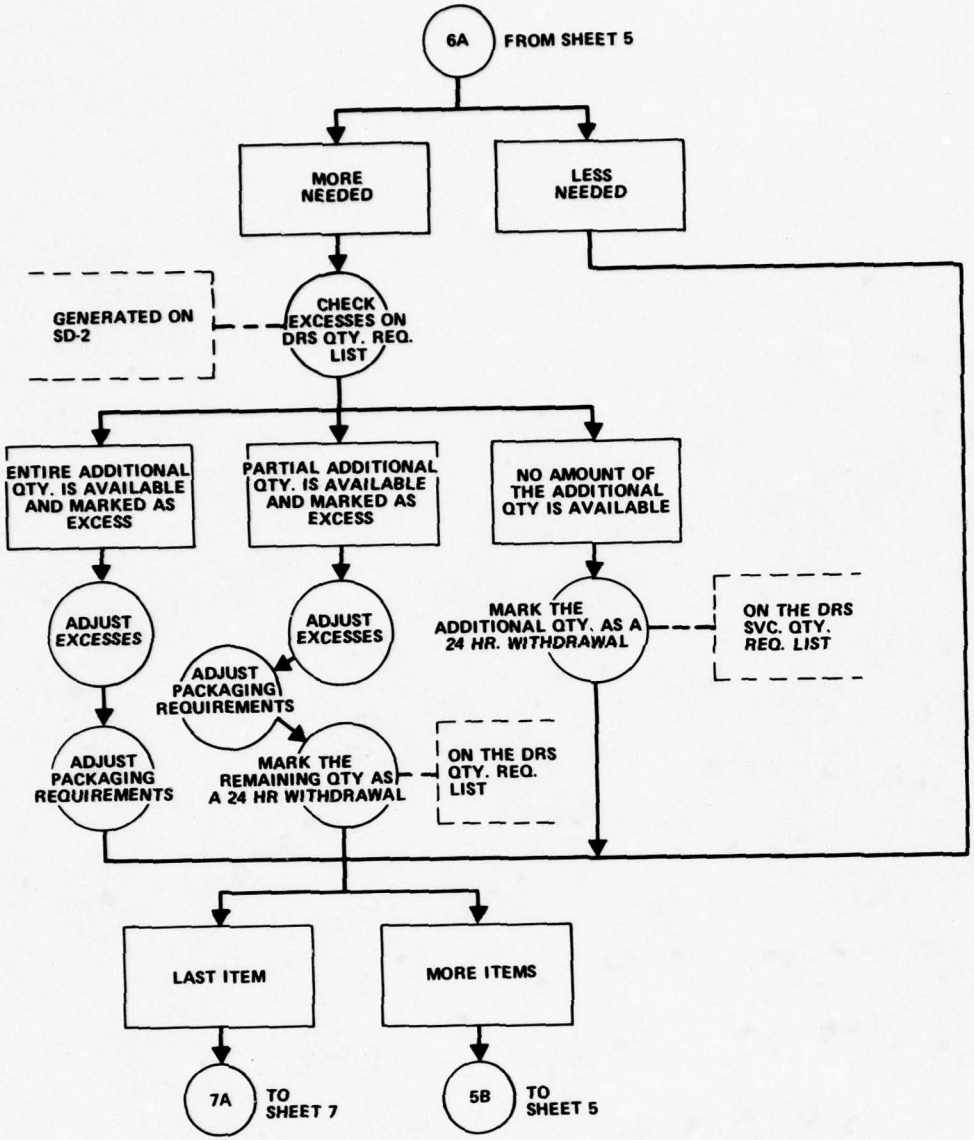
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SHEET 3 OF 9 17 MAR 75



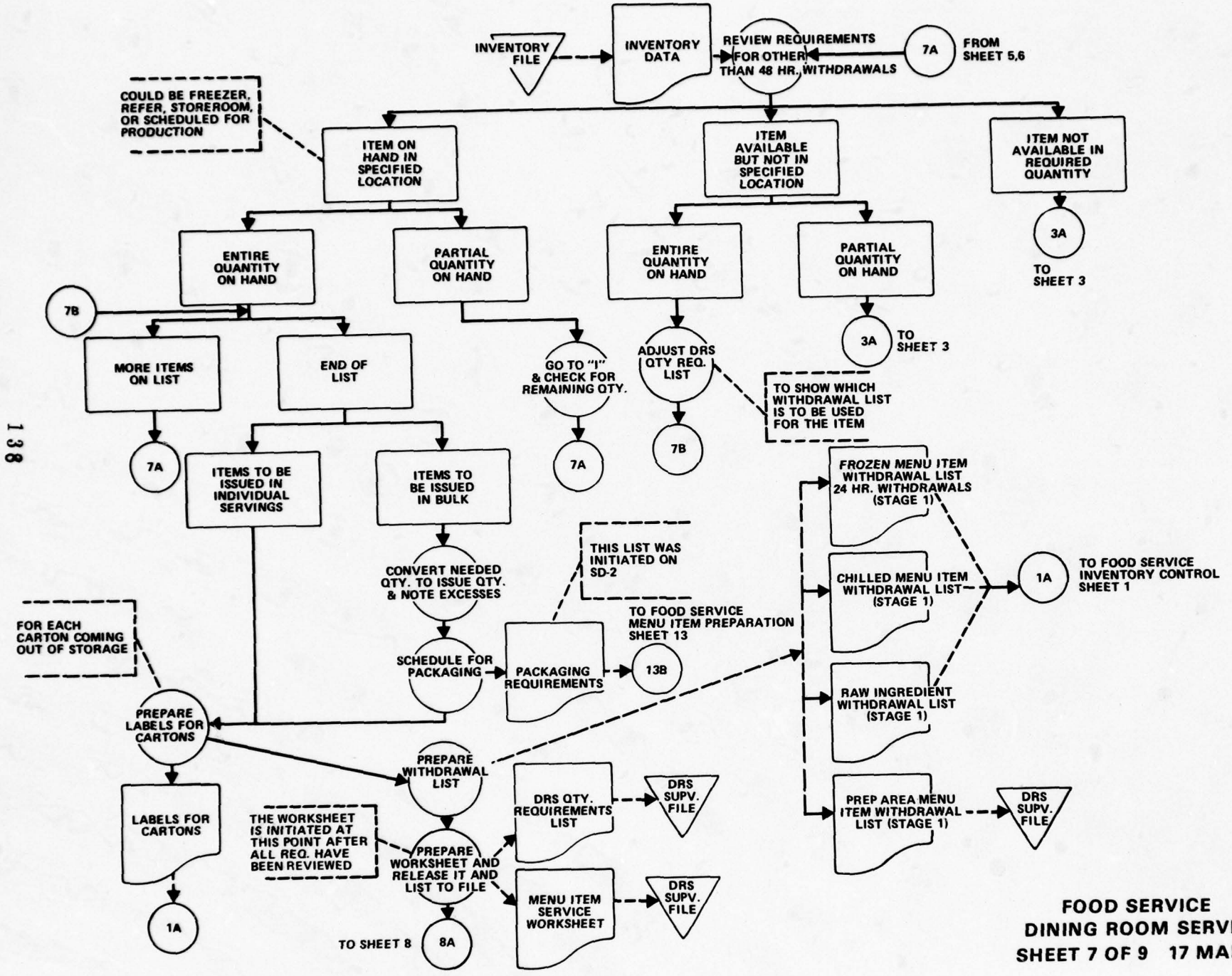
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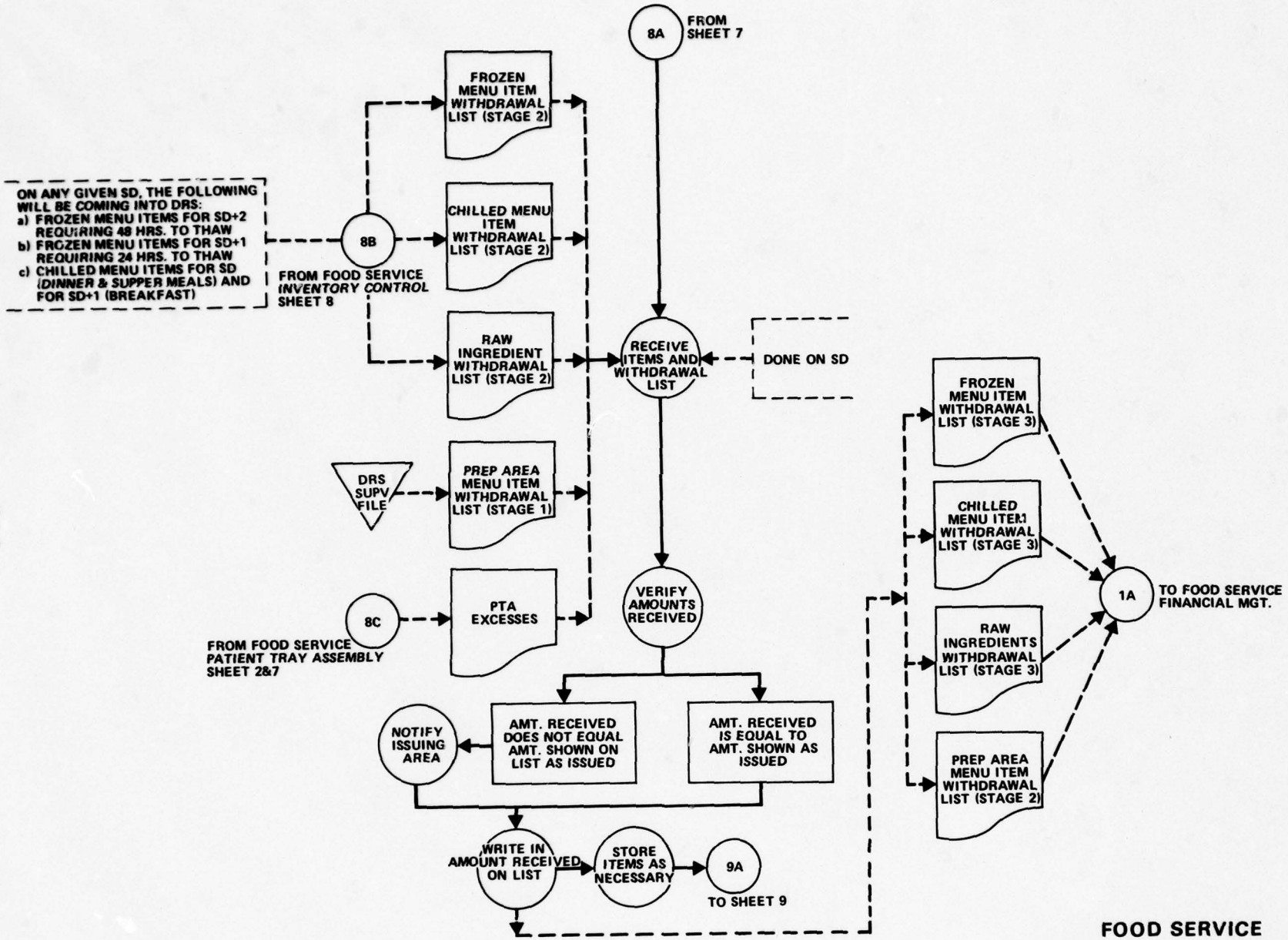
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DINING ROOM SERVICE
SHEET 5 OF 9 17 MAR 75



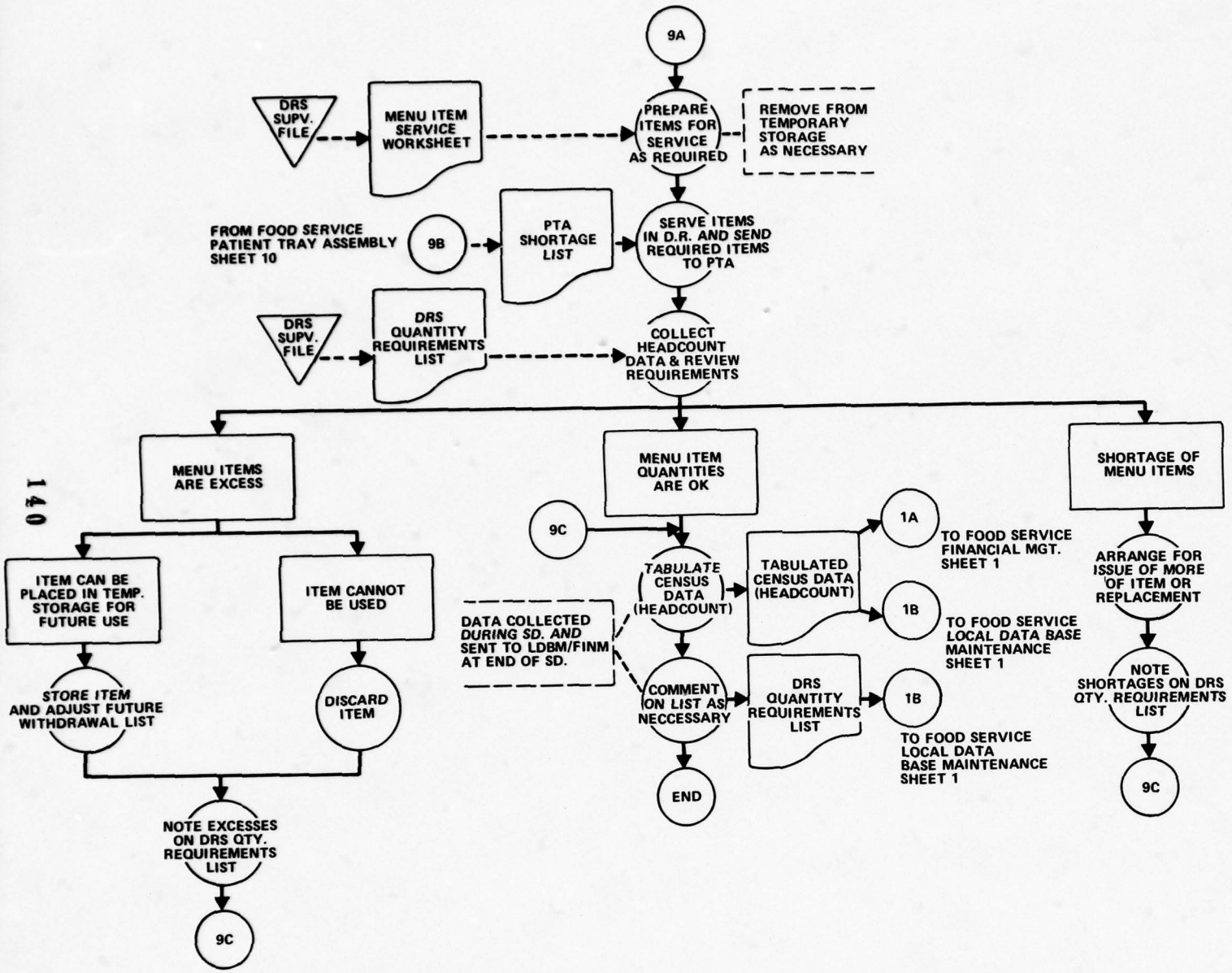
FOOD SERVICE
DINING ROOM SERVICE
SHEET 6 OF 9 17 MAR 75



FOOD SERVICE
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ABBREVIATIONS

AIR EVAC'D	air evacuated
AMIRL	additional menu item requirements list
AMT	amount
APPRO, APPROP	appropriate
APPT, APPTMNT	appointment
ASAP	as soon as possible
ASSEM	assembly
ATTEND, ATTDNT	attendant
AUTH	authorized
AWOL	absent without leave
BEG	beginning
CALC'S	calculations
CD	Clinical Dietetics
CDB	Central Data Base
CHNG	change
CLG	cart loading guide
COMMS	comments
CONT	control
COORD	coordinator
CP	care provider
CS	clinical support
DEL	delivery
DETERM	determine
DH	dining hall
DIET	dietetic
DISPEN	dispensing
DOCU	document
DRS	dining room service
DUP	duplicate
EQUIP	equipment
EVALU	evaluation
EXP, EXPIR	expiration
FINM	Financial Management
FS	Food Service
HOSP	hospital
HX	history

ABBREVIATIONS cont.

IC	Inventory Control
ID	identification
INFO	information
INDIC'D	indicated
ING, INGRED	ingredient
INIT	initiate
INSTR, INSTRUC	instruction
INV, INVEN	inventory
LDBM	Local Data Base Maintenance
LOC	location
LOG TECH	logistics techician
MAINT	maintenance
MAX	maximum
MED	medical
MGR	manager
MGT	management
MIN	minimum
MIP	menu item preparation
MIPS	menu item preparation scheduling
MIQRL	menu item quantity requirements list
MOD	modification
MSTR	master
NDG	nourishment delivery guide
NEC, NECES	necessary
NOUR, NOURMNT	nourishment
NPO	nothing by month
NUTR	nutritive
ORIG	original
PAD	Patient Administration Division
PAS	Patient Appointment and Scheduling
PERS	personnel
PERT	pertinent
PHY, PHYS	physical
PKG	package
PMI	prepared menu item
POTEN	potential
PREP	preparation
PROC	process
PROD, PRODUC	production
PS	production schedule
PT, PTN	patient
PTA	patient tray assembly

ABBREVIATIONS cont.

QC	Quality Control
QTY, QUAN	quantity
RAND	random
RDING	recording
REFRIG	refrigerator
REQ	request; requisition
REQ'D	required
REQMNT, REQ	requirement
RM	room
SAMP	sample
SCHED	schedule; scheduled
SD	service day
SELEC(s)	selection(s)
SHT	sheet
SI	seriously ill
SOP	Standing Operating Procedure
SPEC	special
SPECS	specifications
STOR	storage
SUPR	supervisor
SVC	service
SYS	system
TEMP	temperature; temporary
TRANSAC	transaction
VAL	value
VSI	very seriously ill
W/	with
W/DRAWAL, W/DRWL	withdrawal
W/in	within
W/O	without
Δ t	time elapsed

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AD A032 222

TRIMIS-Army Technical Report 1-10

H O S P I T A L

L O G I S T I C S

PROCESS
CONDITION ACTION DIAGRAM
FLOWCHARTS

US ARMY TRIMIS AGENCY
WALTER REED ARMY MEDICAL CENTER
WASHINGTON, DC 20012

November 1976

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1. REPORT NUMBER TRIMIS-ARMY-TR-1-10	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE *(and Subtitle)* HOSPITAL LOGISTICS PROCESS CONDITION-ACTION DIAGRAM FLOWCHARTS		5. TYPE OF REPORT & PERIOD COVERED 6. PERFORMING ORG. REPORT NUMBER N/A
7. AUTHOR(s) LTC Lloyd Dupuy; CPT William Moon; Mickey Hile, CDP; Ms. Lee Ingham		8. CONTRACT OR GRANT NUMBER(s) N/A
9. PERFORMING ORGANIZATION NAME AND ADDRESS USA TRIMIS Agency WRAMC Washington, DC 20012		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS USA TRIMIS Agency WRAMC Washington, DC 20012		12. REPORT DATE November 1976 13. NUMBER OF PAGES 96
14. MONITORING AGENCY NAME & ADDRESS(*if different from Controlling Office*) N/A		15. SECURITY CLASS. (*of this report*) UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE N/A

16. DISTRIBUTION STATEMENT *(of this Report)*

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17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

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18. SUPPLEMENTARY NOTES

To be used in conjunction with TRIMIS-ARMY-TR-1-1 Overview.

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Flowchart, Condition-Action Diagram, Health Care, Information System, Materiel, Hospital, Logistics, Supply

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

The purpose the TRIMIS Hospital Logistics Systems (HLS) condition-action flowcharts is to provide in graphic form the processes that must be understood in developing computerized logistics information flow for the intra-hospital environment. Only those processes which lead to or react with the initial operating capability of the TRIMIS HLS are depicted. They serve as a vehicle of communication between the functional user and the system analyst. They also serve as an aid in identifying sub-activities which can be routinized and

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thus which easily lend themselves to computerized information flow.

There is a wide diversity of magnitude and complexity in intra-hospital logistics operations throughout the military medical departments.

The flowcharts presented here are a description of one way of implementing the concepts to be used in the new Walter Reed facility. They represent manual activities required to be performed if optimum information flow is to be maintained and include the manual application of the envisioned ADP support. They also assist in identifying the impacts that changes to one part of the system may have on other parts of the system. In addition, they assist in the estimation of the manpower resources saved as a result of implementing an ADP support system. As such, they contribute input for economic analysis. Their applicability to facilities of smaller size or more limited scope of operations is undetermined at this time. However, they should as a minimum serve as a baseline which can be tailored to meet specific needs. Some of the activities described in these charts have been implemented at the Walter Reed Army Medical Center's Model Ward and Model Clinic.

The logistics subsystem of TRIMIS has as its ultimate objective the development and implementation of the ADP support that will enhance the operations of Logistics Service Management as described in applicable Medical Logistics Policies and Procedures. As such it will be a part of the support of all functions involving materiel within the health care facility and all satellite health care activities, including coordination of service equipment maintenance, custody of property, and maintenance of a clean environment.

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ACKNOWLEDGEMENTS

These charts were developed by the Logistics Team of the us army Tri-Service Medical Information System (TRIMIS) Agency with input and review having been provided by personnel of the Logistics Division of Walter Reed Army Medical Center. During and after their development, the charts were reviewed by TRIMIS physicians, nurses, systems analysts, and other functional specialists. The principal TRIMIS personnel involved in this effort were: LTC Lloyd C. Dupuy, Mr. Mickey Hile, Miss Julia Ingham and CPT William Moon. Questions on the charts can be referred to any of the above individuals by telephoning AC 202-576-3196 (Autovon 291-3196).

PURPOSE

The purpose of the TRIMIS Hospital Logistics Systems (HLS) condition-action flowcharts is to provide in graphic form the processes that must be understood in developing computerized logistics information flow for the intra-hospital environment. Only those processes which lead to or react with the initial operating capability of the TRIMIS HLS are depicted. They serve as a vehicle of communication between the functional user and the systems analyst. They also serve as an aid in identifying sub-activities which can be routinized and thus which easily lend themselves to computerized information flow.

BACKGROUND

There is a wide diversity of magnitude and complexity in intra-hospital logistics operations throughout the Military Medical Departments. Even within medical treatment facilities of similiar size and activity, there can exist differences in the way in which logistics operates, although identical functions are performed. For example, the utilization of logistics technicians, nurse servers, a cart exchange system, or a central equipment pool may exist at only selected facilities, but every logistics activity is involved in supplying wards and clinics with needed materiel. Further, the manner in which each of these concepts is implemented may differ at each facility. The flow charts presented here are a description of one way of implementing the concepts to be used in the new Walter Reed facility. They represent manual activities required to be performed if optimum information flow is to be maintained and include the

manual application of the envisioned ADP support. They also assist in identifying the impacts that changes to one part of the system may have on other parts of the system. In addition, they assist in the estimation of the manpower resources saved as a result of implementing an ADP support system. As such, they contribute input for economic analysis. Their applicability to facilities of smaller size or more limited scope of operations is undetermined at this time. However they should as a minimum serve as a baseline which can be tailored to meet specific needs. Some of the activities described in these charts have been implemented at the Walter Reed Army Medical Center's Model Ward and Model Clinic.

LIMITATIONS

Some of the flowcharts presented here must not be construed to fit all situations. In fact, some may fit no situation. Particularly in the Materiel Distribution Service (MDS) area, the amount of clerical activity involved is so cumbersome that much of the information flow will have to be sacrificed if the operation is not supported by ADP. The charts nevertheless serve the purpose of describing to the ADP developer the step by step manual procedures that would be performed in the optimization of information flow. Obviously, the degree of implementation of the methodologies presented here must be carefully balanced with available resources if implementation in a manual mode is contemplated.

With a given that the new Walter Reed is being constructed with built-in mechanized physical distribution systems and nurse servers for each inpatient, and that the concepts of a Materiel Distribution Service, Central Equipment Pool, and Logistics Technicians would be implemented, no attempt was made to chart alternative methodologies of intra-hospital logistical support.

OBJECTIVES

The logistics subsystem of TRIMIS has as its ultimate objective the development and implementation of the ADP support that will enhance the operations of Logistics Service Management as described in AR 40-61, Medical Logistics Policies and Procedures. As such it will be a part of the support of all functions involving materiel within the health care facility and all satellite health care activities, including coordination of service equipment maintenance, custody of property, and maintenance of a clean environment. ADP applications, however, cannot totally replace manual systems. The two must be judiciously merged. Application of complementary ADP and manual systems will accomplish the following objectives stated in AR 40-61:

1. Improve patient care by relieving skilled professional personnel of unrelated duties.

2. Reduce health care facility operating costs and inventories of materiel at all storage locations.

3. Improve materiel support through continous flow of materiel, automatic computation of requirements, and direct contact between operating personnel of the logistics division and using activities.

4. Centralized management of all materiel flow.

5. Safe and efficient maintenance of service equipment.

6. Improved housekeeping support through collection of waste.

The manual flowcharts are the first step in defining the methodologies that can be implemented to achieve these objectives. They are not collectively exhaustive in that they address only those areas that support the near-term objectives of the ADP system.

OVERVIEW

The flow charts presented here are divided into three groups. One group describes the activities performed by a logistics technician in support of a health care point. The next group describes the activities which occur at the Materiel Distribution Service, the focal point for all logistics support within the medical treatment facility. The third group describes the activities that occur in the management of the central equipment pool.

Each group of charts is constructed as a closed system. The logistics technician and Materiel Distribution Service groups each contain a control or master chart named General Duties Process. This master chart identifies each process that can be performed within that group's scope of activity, allows the reader to select a process to be performed, and directs him to the detailed chart of the selected process. At the completion of each process the reader is directed back to the master chart for selection of the next process to be performed. Note that in the Logistics Technician's General Duties Process, the flow of activity allows the selection of processes only if there is no need to submit critical orders. If critical orders need to be submitted, the Logistics Technician's Order Process must be performed before selection of another process is allowed.

Two charts, the Cart Delivery and Return Process and the DDAMP/MDS Posting Process, are members of two groups. Two charts, Overview of Materiel Inflow and MDS Document Flow, are members of none of the groups. The former as a basic introduction to the uninitiated reader, the latter serves to clarify the interrelationships of the documents mentioned in the MDS processes.

SUBSYSTEM INTERFACES

The logistics flowcharts interface with the charts of Pharmacy, Food Services, Laboratory, Radiolgoy, Dental, and Wards and Clinics. There are no interfaces with Patient Administration and Patient Appointments/ Scheduling.

CONDITION-ACTION
DIAGRAM
INTERPRETATION
GUIDE

ACTION

When an action circle is encountered, the specified action, procedure, function, or process is to be performed as noted. An action is performed and never has a truth (true or false) value.



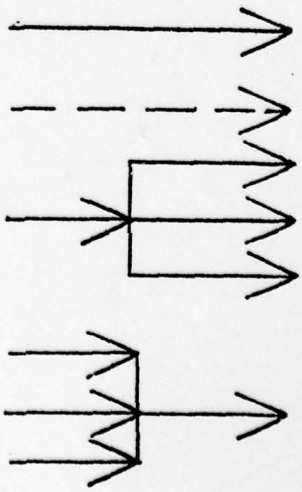
CONDITION

When a condition box is encountered, the specified condition is to be evaluated. If it holds true or succeeds, the following blocks on the diagram are to be executed. If the condition does not hold, then flow along this path of the diagram stops. The flow may, as appropriate, either be permanently blocked or may merely wait at the box pending the successful evaluation of the condition at some later time. A condition always has a truth (true or false) value.



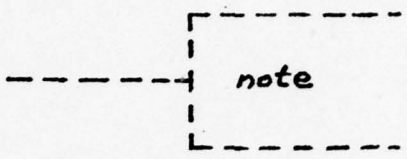
FLOWLINES

Flow proceeds through the diagram along the flowlines. When a flowline splits into multiple lines, all the lines must be followed (perhaps at once). If only one is intended, condition boxes will be used to select the proper line. When flowlines join or reconsolidate into a single line, that line is to be followed regardless of the number of joining lines that were active. Thus there is no waiting at a junction. Control, execution, or interpretation of the diagram is shown by solid flowlines. Data and information, is usually assumed to accompany control, but where necessary for clarity, it is shown, regardless of media, by dashed lines.



NOTE

Clarifying notes, comments, remarks, and other annotation, including references to additional documentation, are enclosed in dashed note boxes and are connected to the annotated structure by dashed lines.



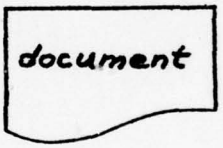
STORAGE

A triangular storage block indicates storage of information or data regardless of the medium of storage. Thus, only dashed data flow lines, not solid control lines, will connect to storage blocks.



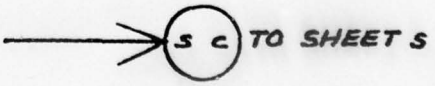
DOCUMENT

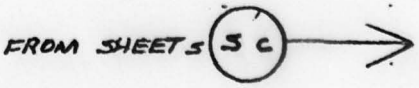
A document symbol represents information or data, regardless of media (it may or may not physically reside on a document). It is used only for clarity, as information such as that contained in the "document" is assumed to always be present along with the control flow. Like the storage symbol, only dashed data lines may connect to a document symbol.



CONNECTOR

A connector circle specifies that the flow continues on another page. An out-connector contains a number, which is the sheet number at which the flow is continued, and a letter, which specifies which in-connector on that sheet is being referenced. The in-connector contains the matching number-letter code. Adjacent to the connectors is a notation as to the sheet and process to or from which the connectors refer.





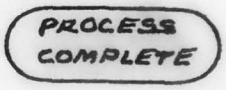
PROCESS

A striped process circle indicates a process to be performed. It is analagous to a high-level or meta-action. The process referenced will be diagrammed in its own set of condition-action flowcharts which are included in the same packet of flowcharts for reference. After the process is performed, flow resumes.

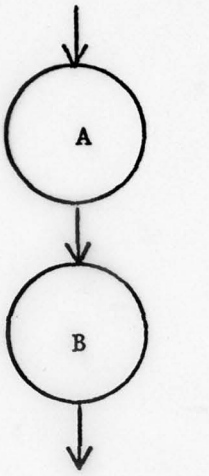


TERMINATOR

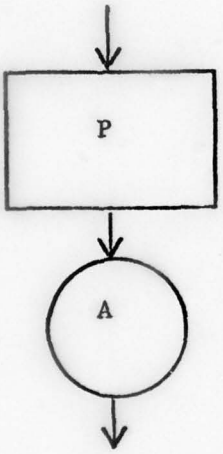
The oblong terminator symbol indicates that the current process or sub-process is complete. Normally, upon completion of a process, control returns to the process which invoked it, and resumes where it left off in that process.



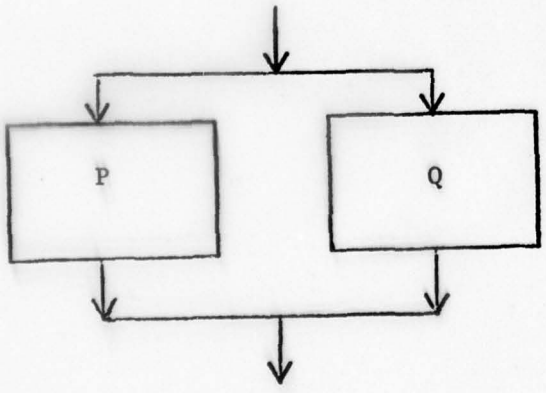
CONDITION-ACTION EXAMPLES



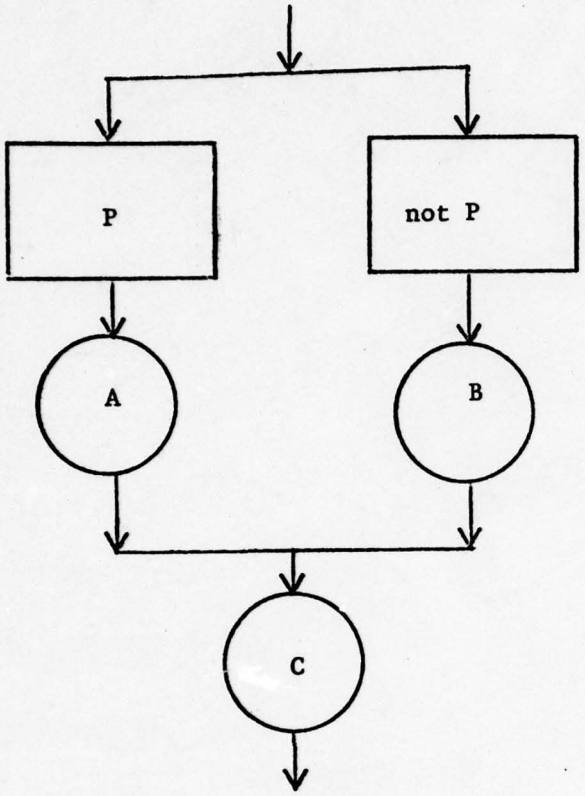
Perform action A first, then in sequence, perform action B.



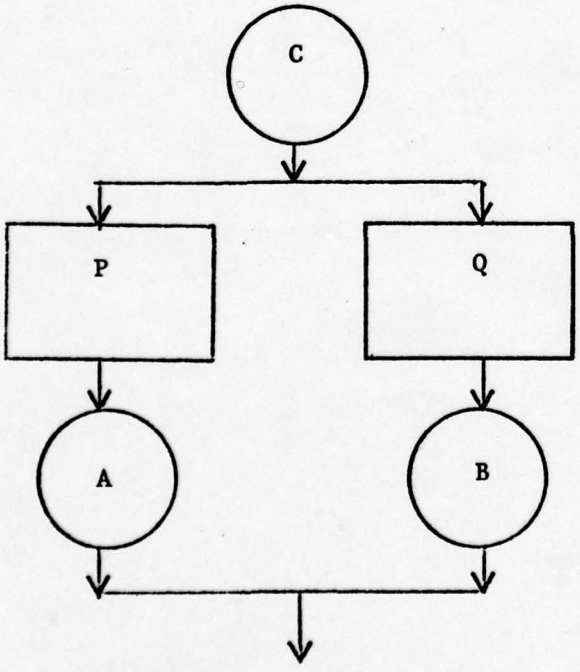
If condition P holds true, then perform action A. If P does not hold, do not perform A



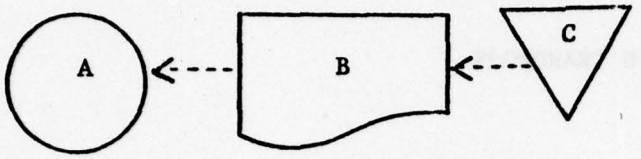
If either condition P holds true, or if condition Q holds true, (or both), then perform action A. If neither holds true, then do not perform A.



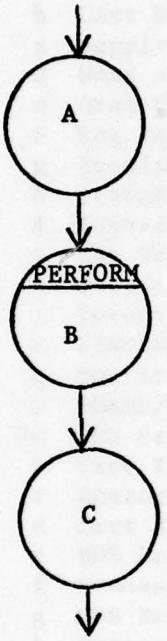
If condition P holds true, then perform action A but not action B. If P does not hold, then perform B but not A. In any case, when done perform C.



First perform action C. Then, if condition P holds true, perform action A. If condition Q holds true, perform action B. Note that both P and Q may hold, in which case, both A and B will be performed.



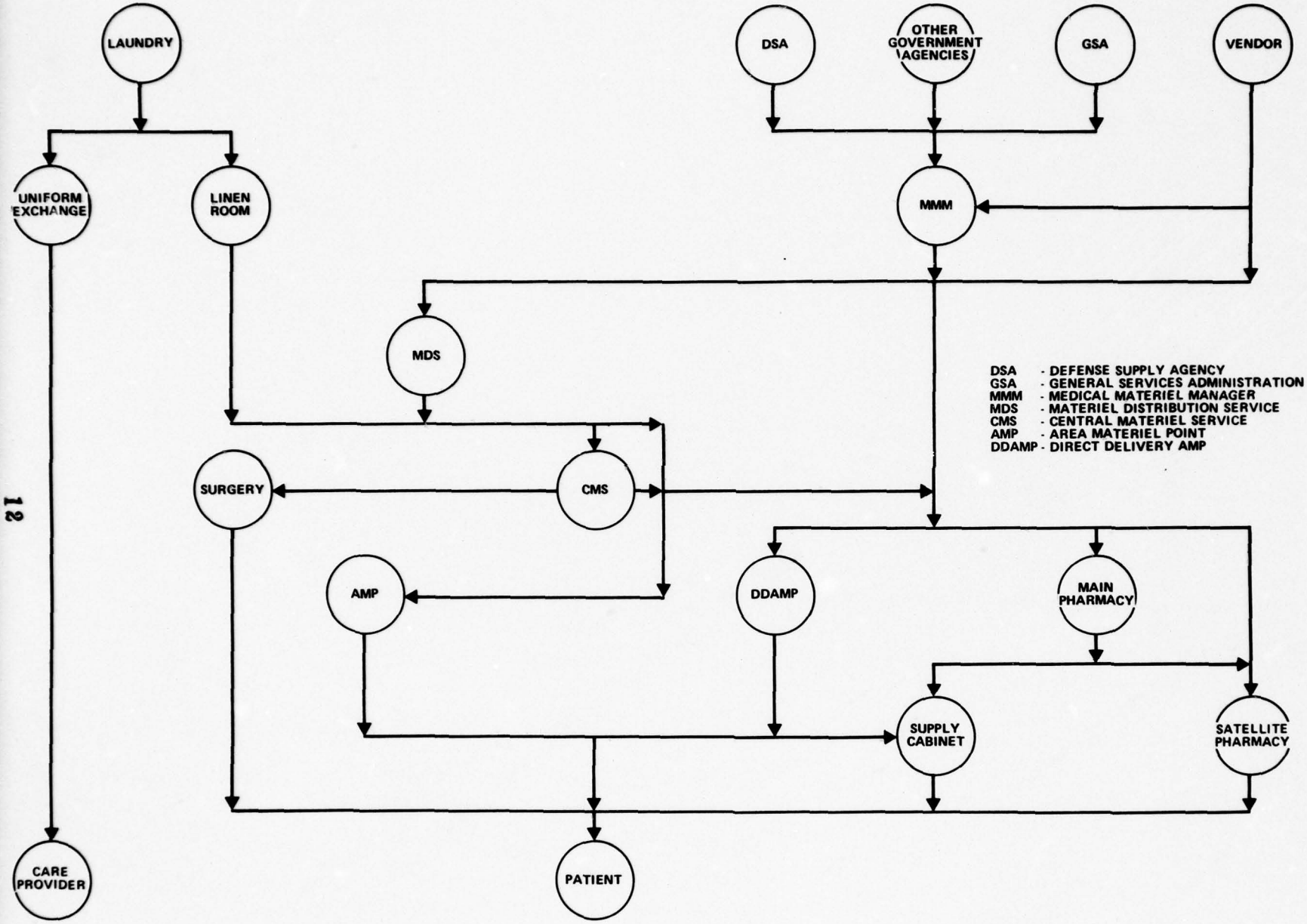
Perform action A utilizing information contained on the document B which was retrieved from the file C.



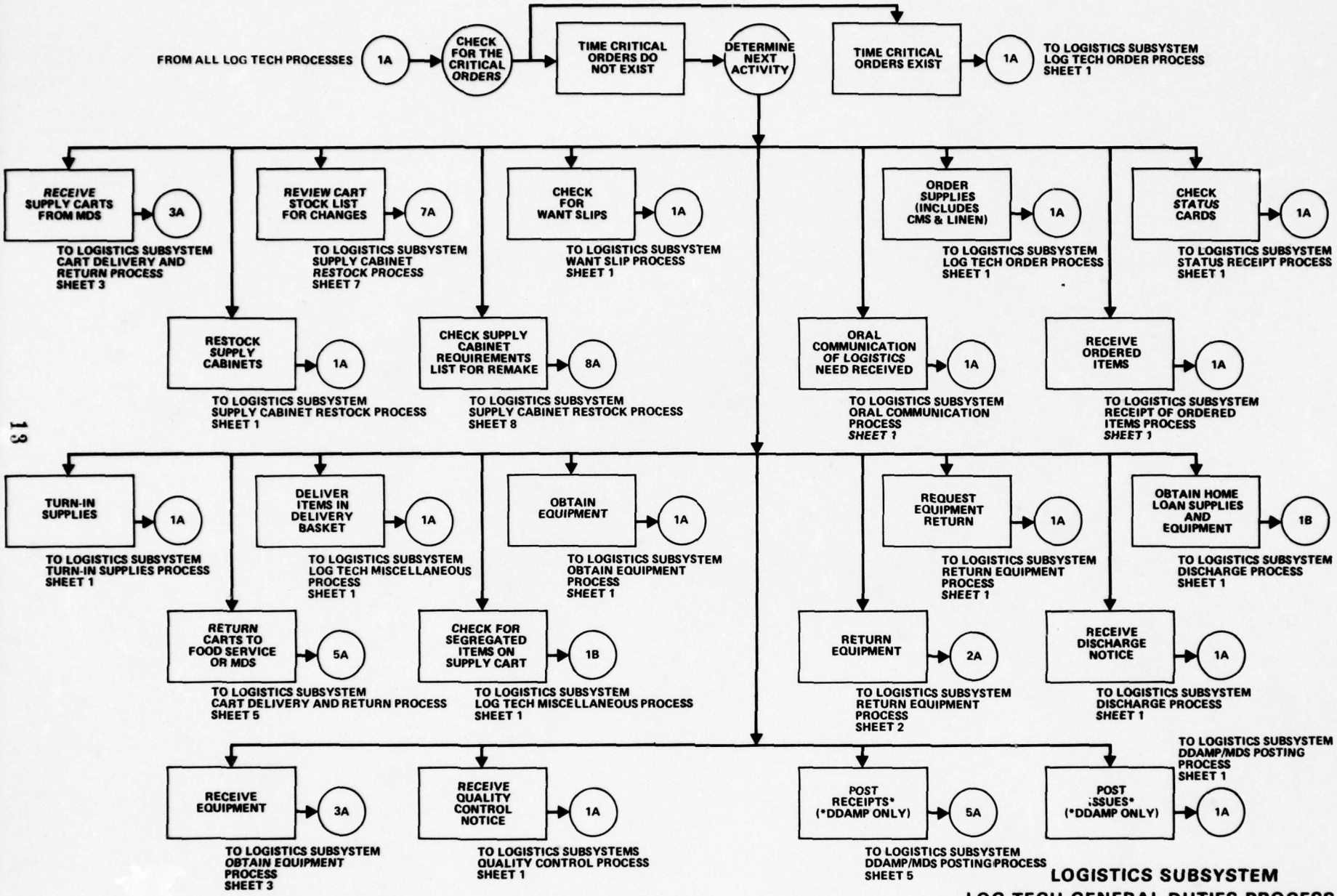
First perform action A. Then perform process B which is itself flowcharted elsewhere in this set of charts. After B is completed, return to here and perform action C.

FLOWCHART DIRECTORY

		LENGTH	PAGE
1	Overview of Materiel in Flow	1	12
2a	Log Tech General Duties	1	13
b	Cart Delivery and Return	6	14
c	Supply Cabinet Restock	9	20
d	Want slip	1	29
e	Oral Communication	1	30
f	Log Tech Order	8	31
g	Receipt of Ordered Items	5	39
h	Status Receipt	3	44
i	Turn-in Supplies	2	47
j	Log Tech Miscellaneous	1	49
k	Obtain Equipment	3	50
l	Return Equipment	2	53
m	Discharge	4	55
n	Quality Control	2	59
o	DDAMP/MDS Posting	7	61
3a	MDS General Duties	1	68
b	Cart Inventory	1	69
c	Restock Computation	2	70
d	Cart Restock	3	72
e	MDS Receipts	2	75
f	Process Receiving Documents	1	77
g	MDS Response to Orders	4	78
h	Customer Accounting	2	82
i	Cart List Preparation	3	84
4	Equipment Pool Activities	7	87
5	MDS Document Flow	1	94
		83	



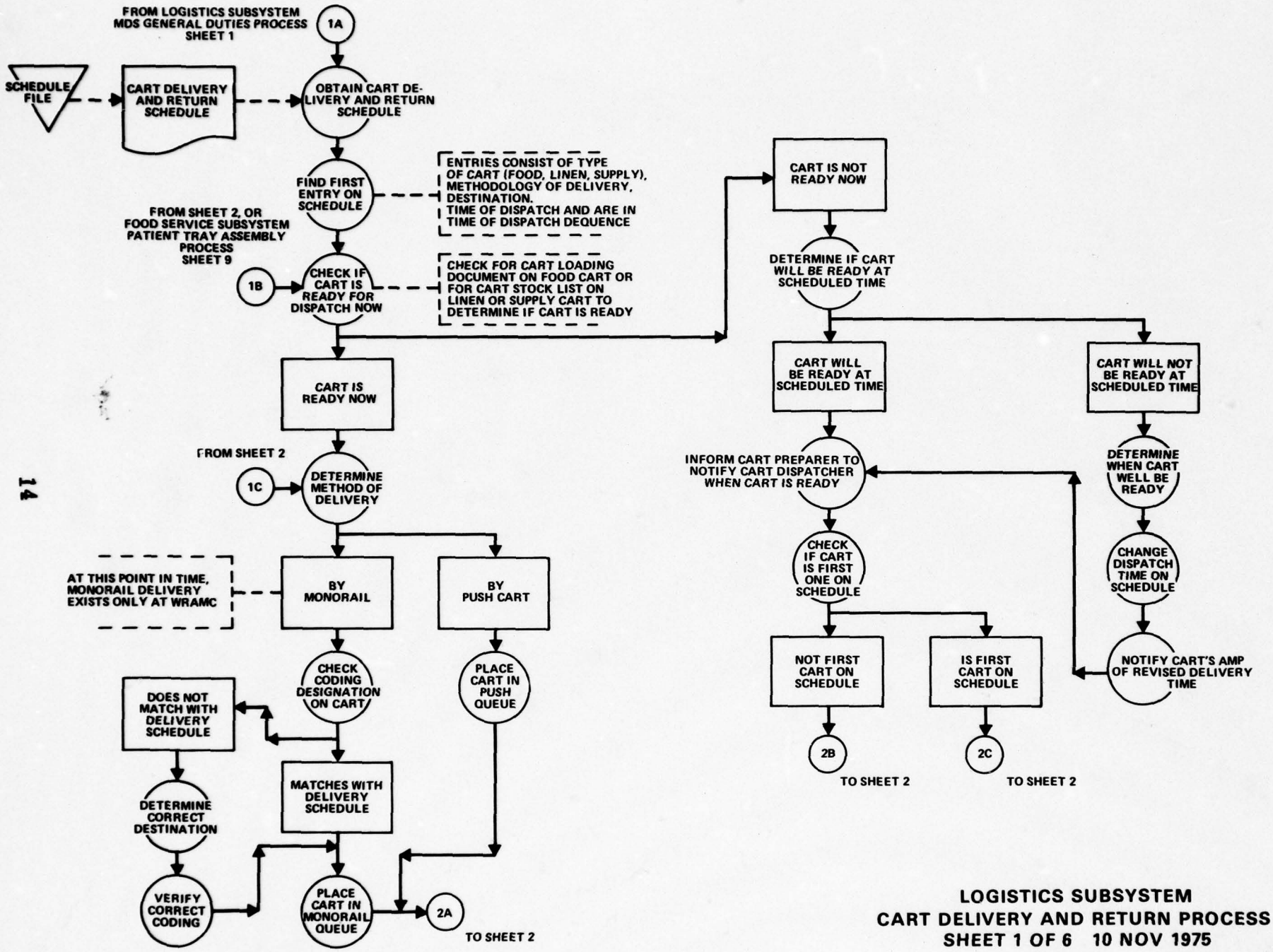
LOGISTICS SUBSYSTEM
OVERVIEW OF MATERIEL INFLOW
SHEET 1 OF 1 30 DEC 1975



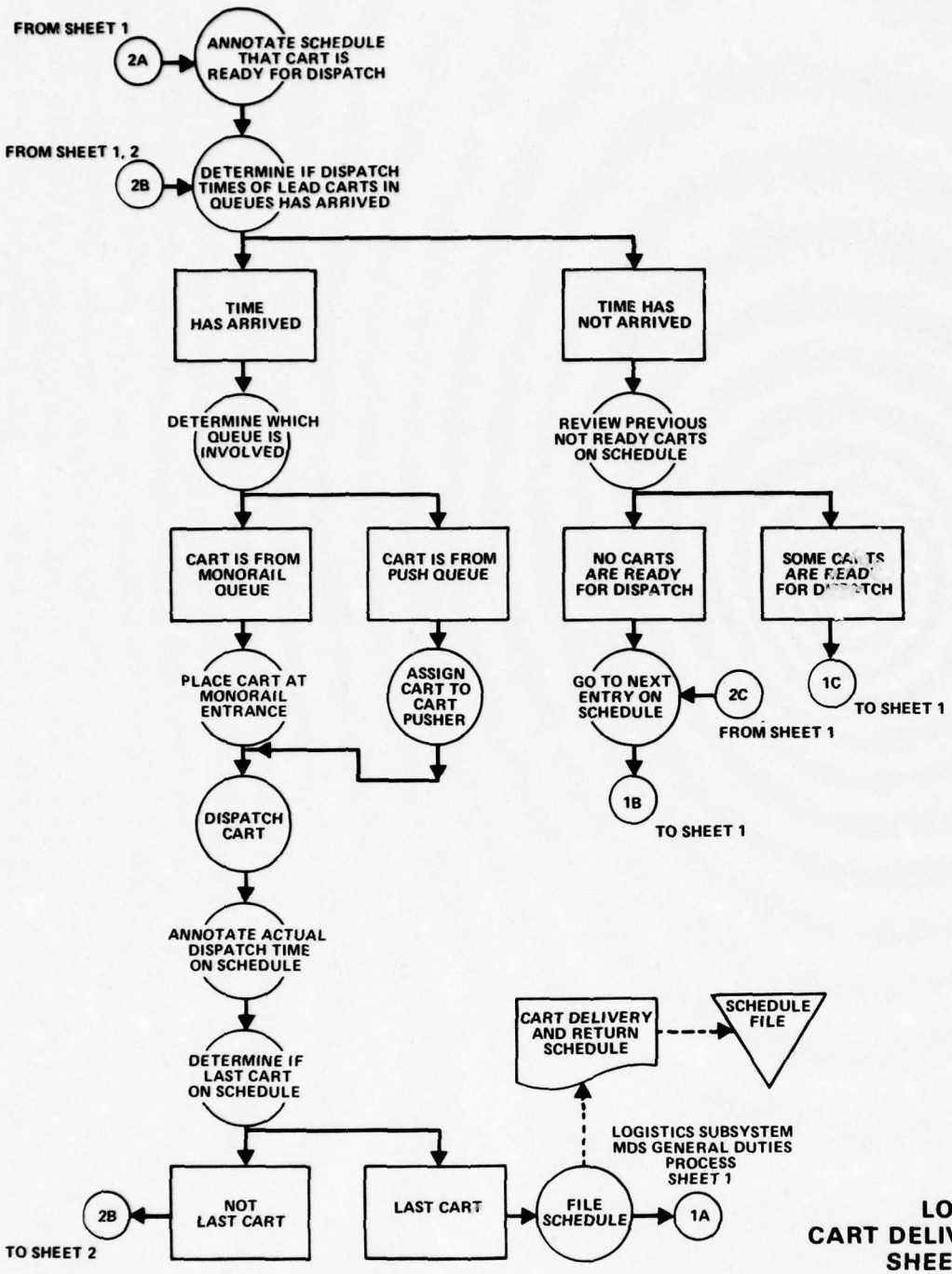
LOGISTICS SUBSYSTEM

LOG TECH GENERAL DUTIES PROCESS

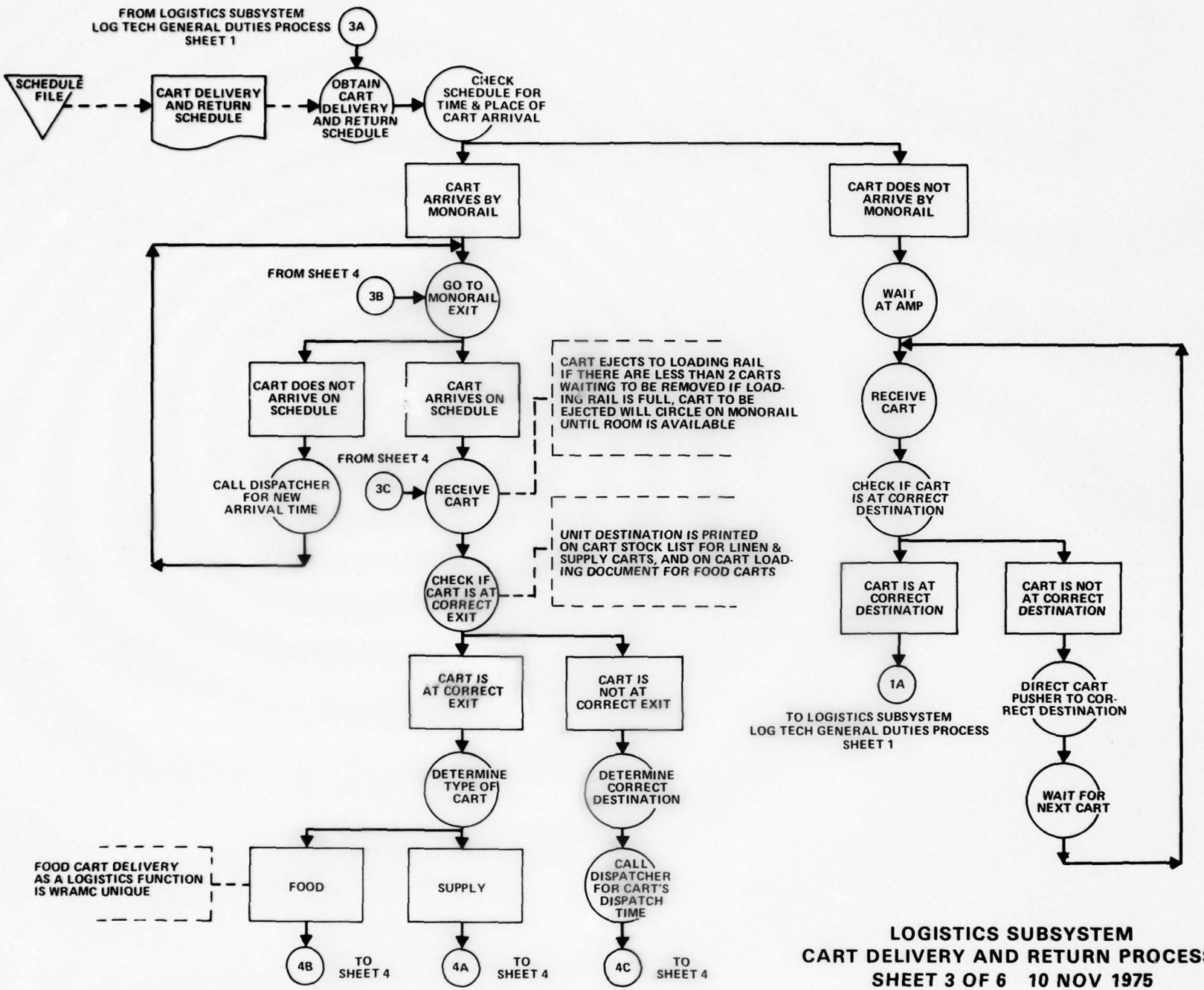
SHEET 1 OF 1 10 NOV 75



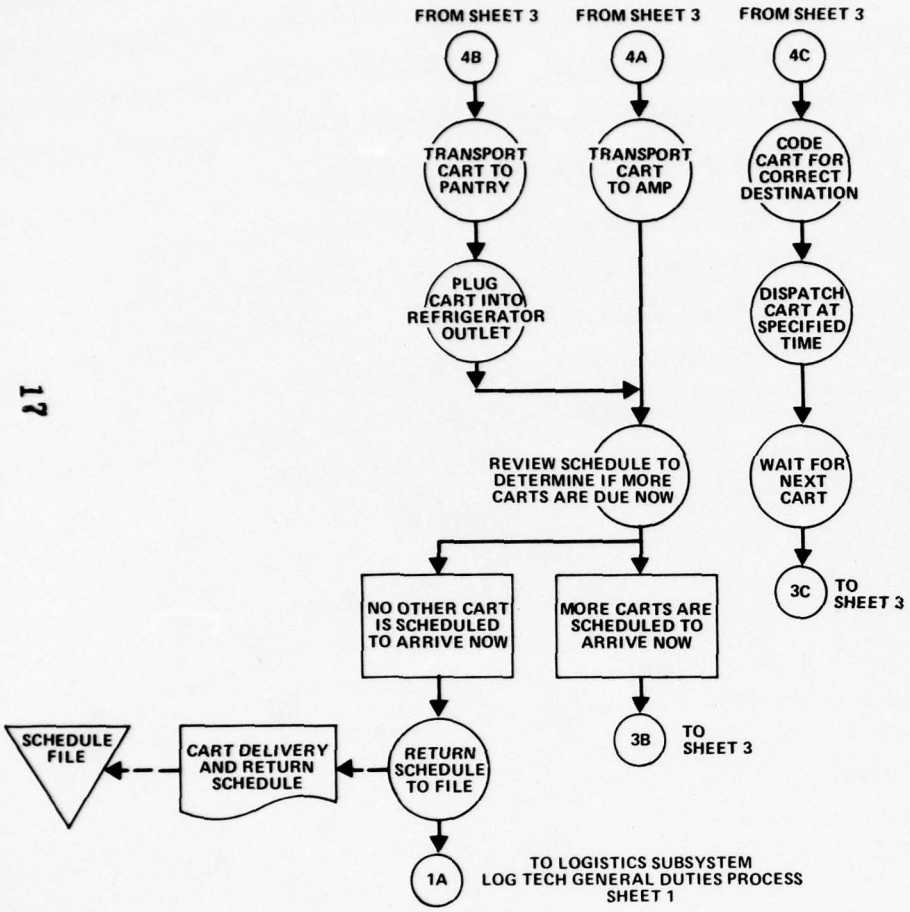
LOGISTICS SUBSYSTEM
CART DELIVERY AND RETURN PROCESS
SHEET 1 OF 6 10 NOV 1975



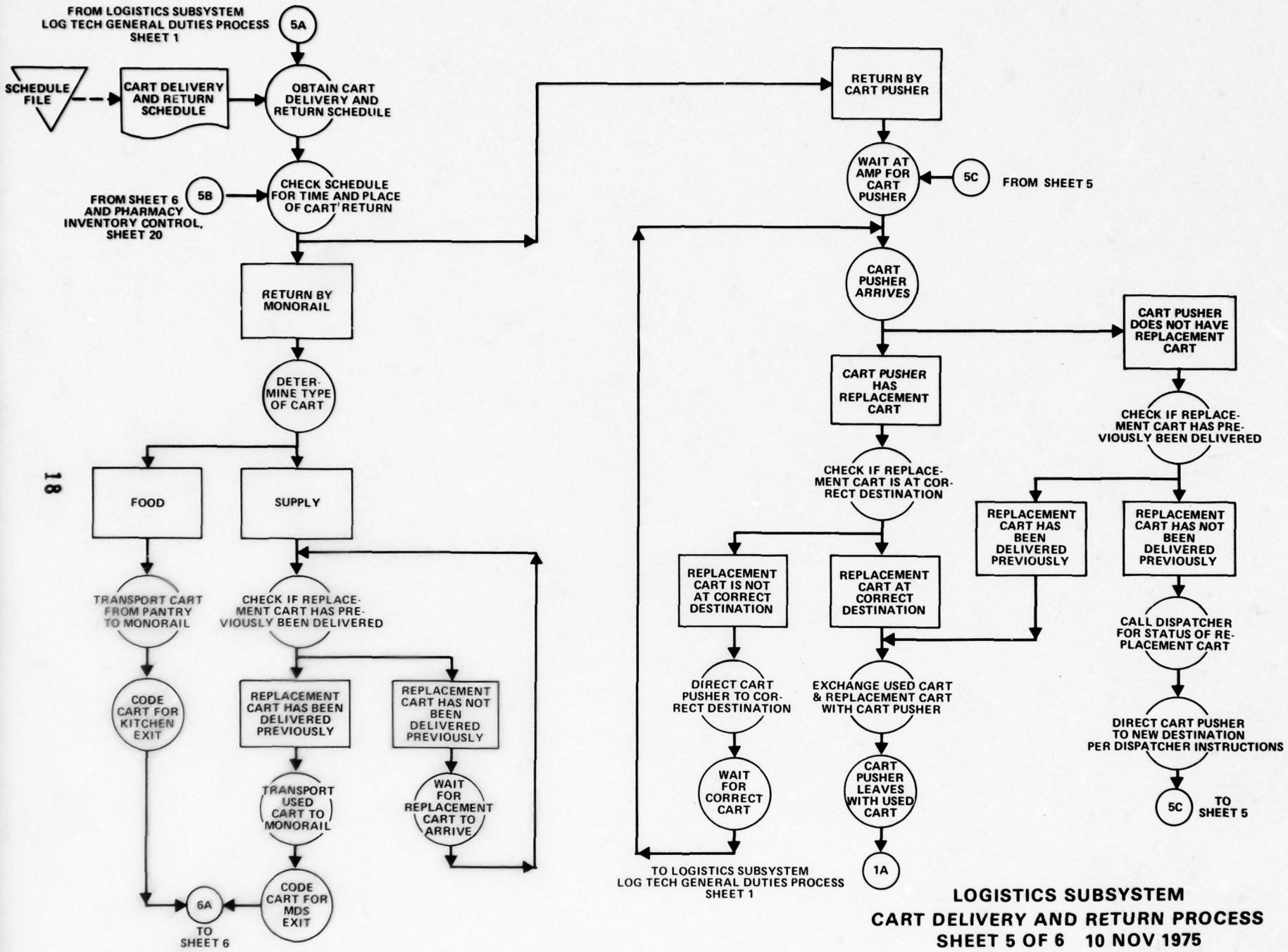
LOGISTICS SUBSYSTEM
CART DELIVERY AND RETURN PROCESS
SHEET 2 OF 6 10 NOV 1975



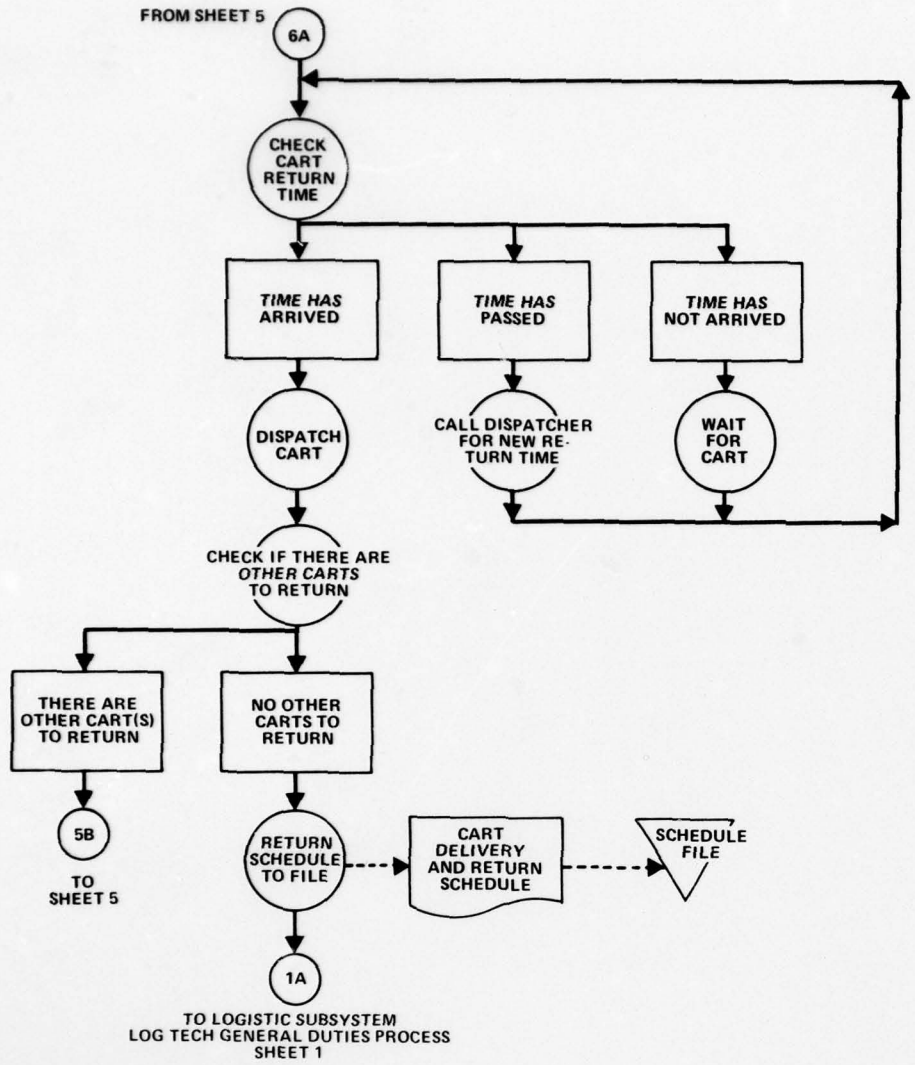
LOGISTICS SUBSYSTEM
CART DELIVERY AND RETURN PROCESS
SHEET 3 OF 6 10 NOV 1975



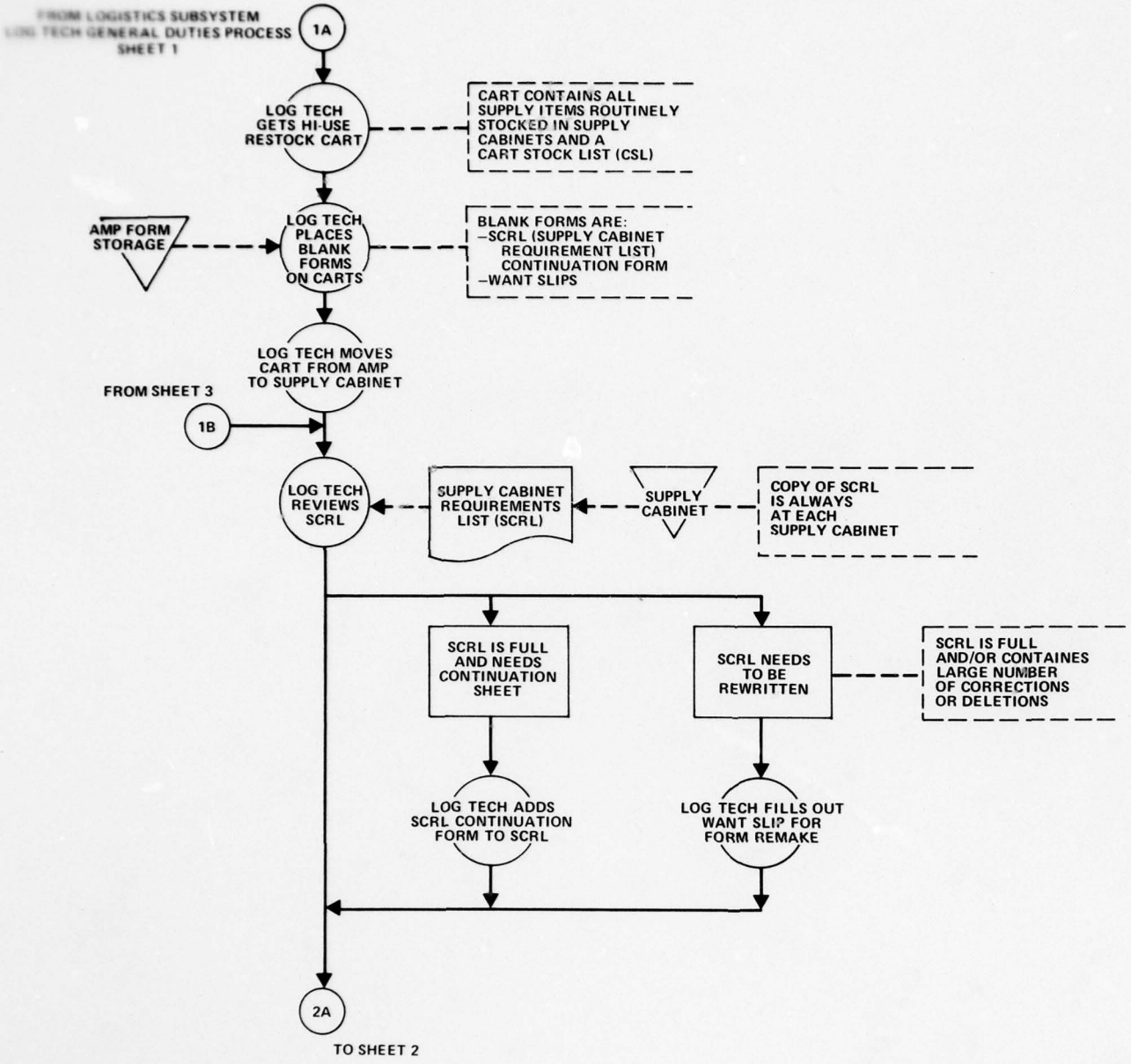
LOGISTICS SUBSYSTEM
CART DELIVERY AND RETURN PROCESS
SHEET 4 OF 6 10 NOV 1975



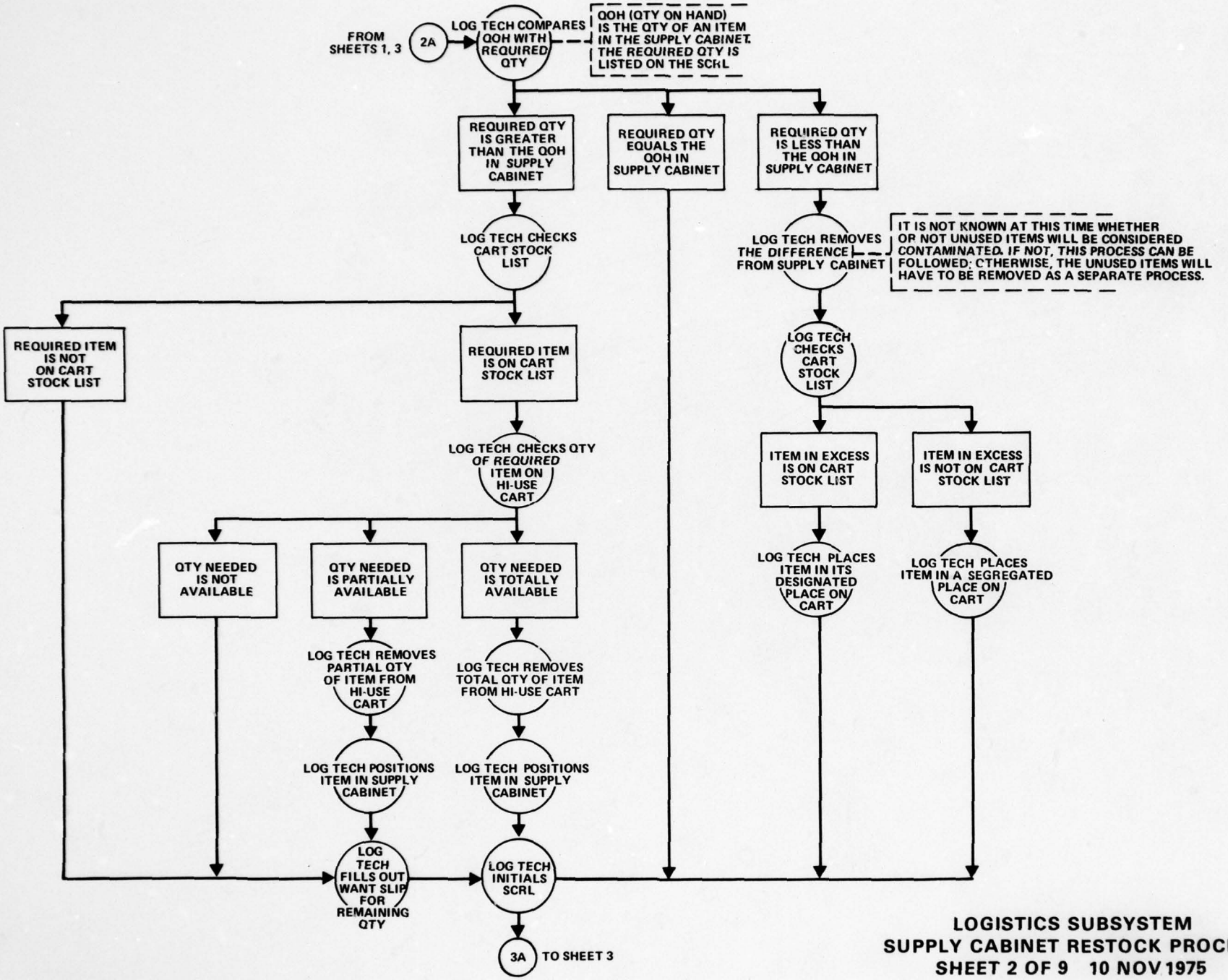
LOGISTICS SUBSYSTEM
CART DELIVERY AND RETURN PROCESS
SHEET 5 OF 6 10 NOV 1975



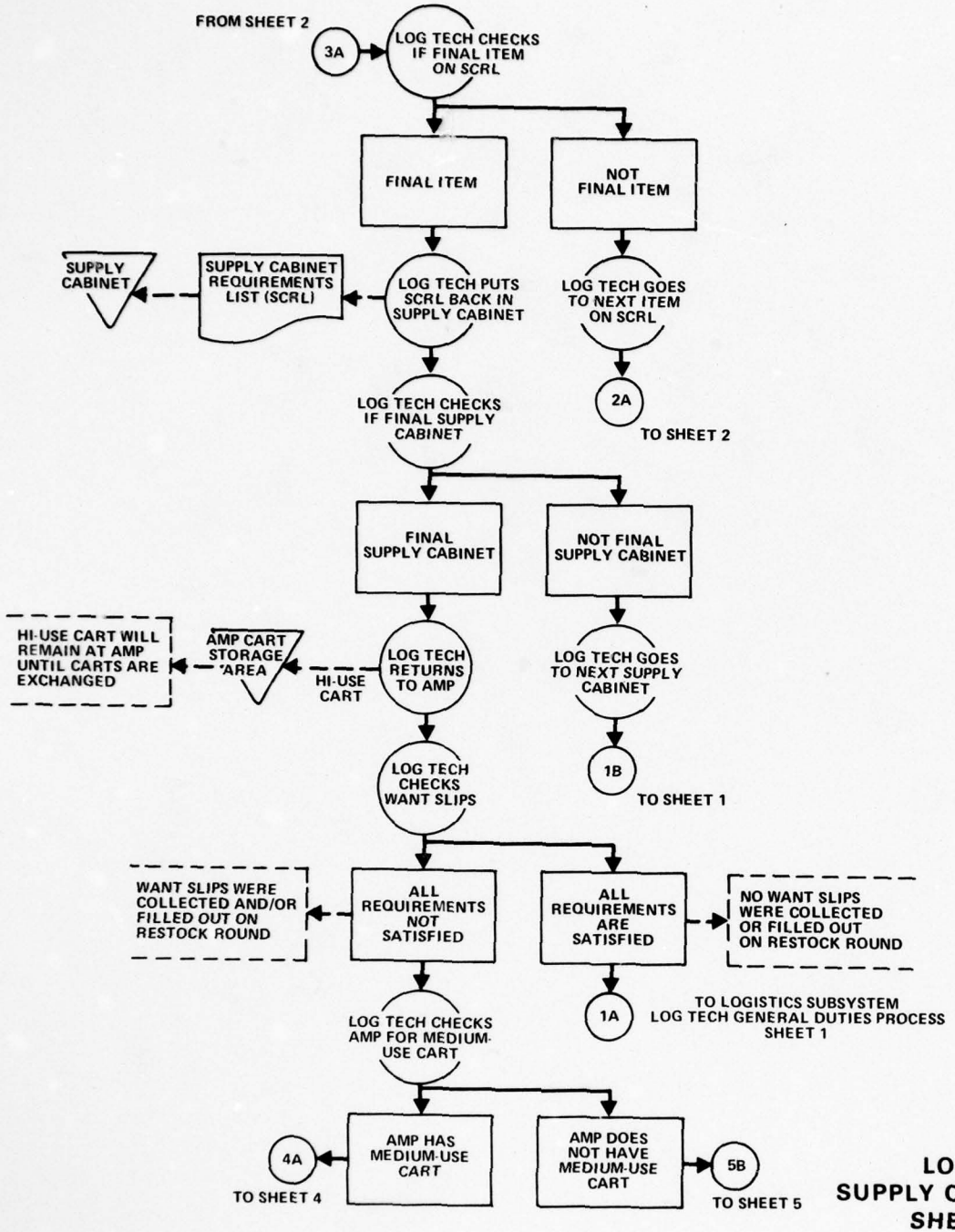
LOGISTICS SUBSYSTEM
CART DELIVERY AND RETURN PROCESS
SHEET 6 OF 6 10 NOV 1975



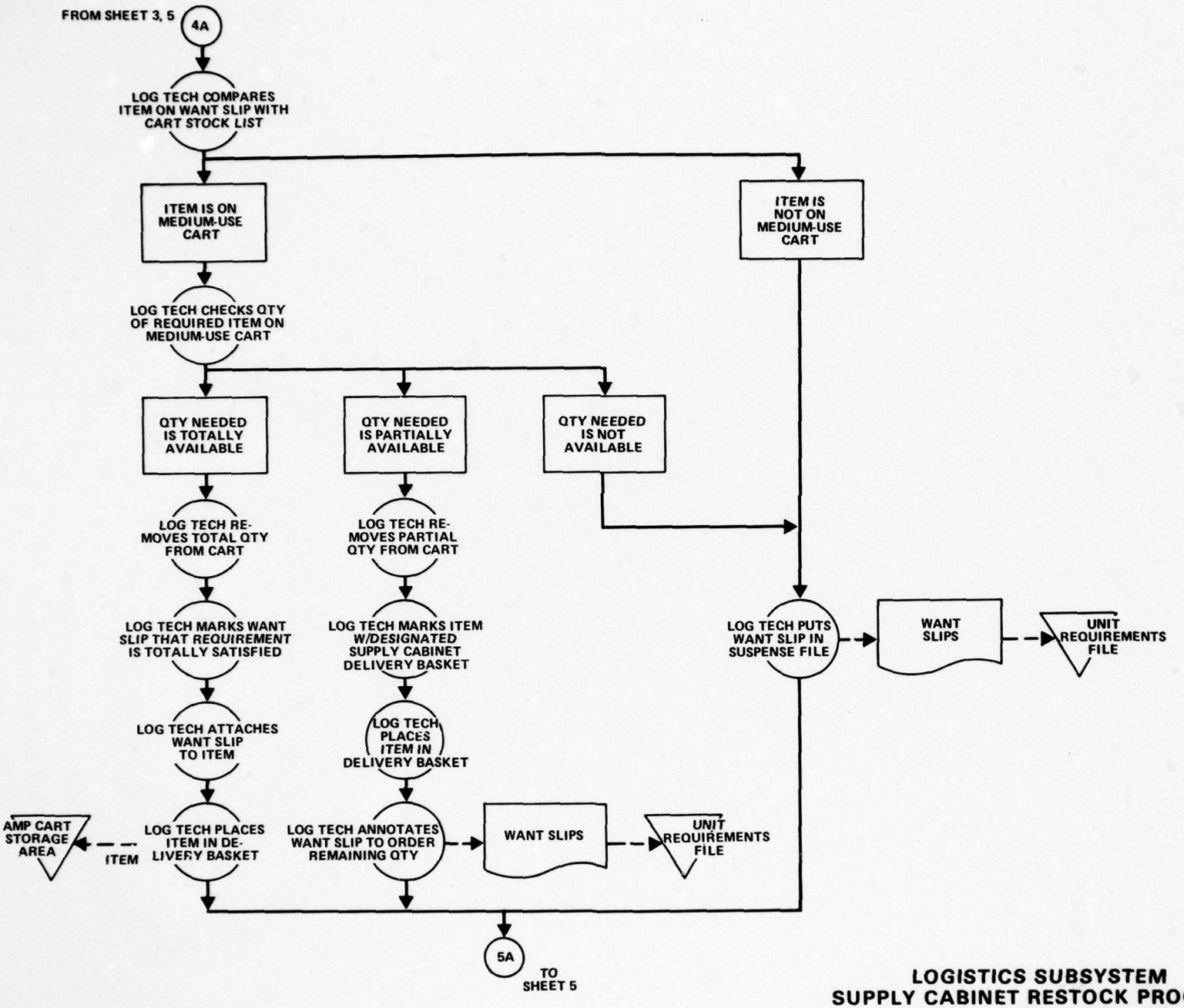
LOGISTICS SUBSYSTEM
SUPPLY CABINET RESTOCK PROCESS
SHEET 1 OF 9 10 NOV 1975



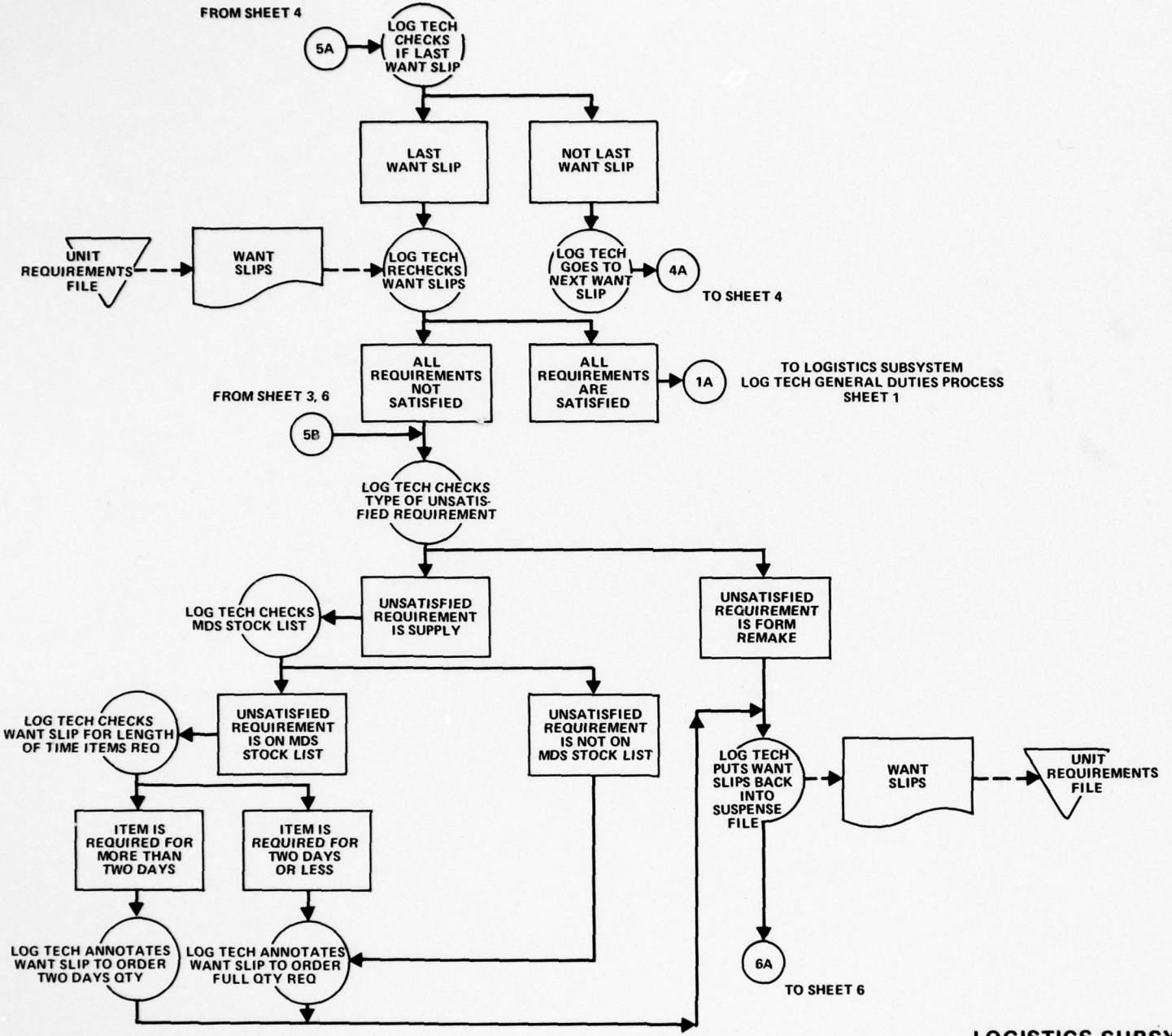
LOGISTICS SUBSYSTEM
SUPPLY CABINET RESTOCK PROCESS
SHEET 2 OF 9 10 NOV 1975



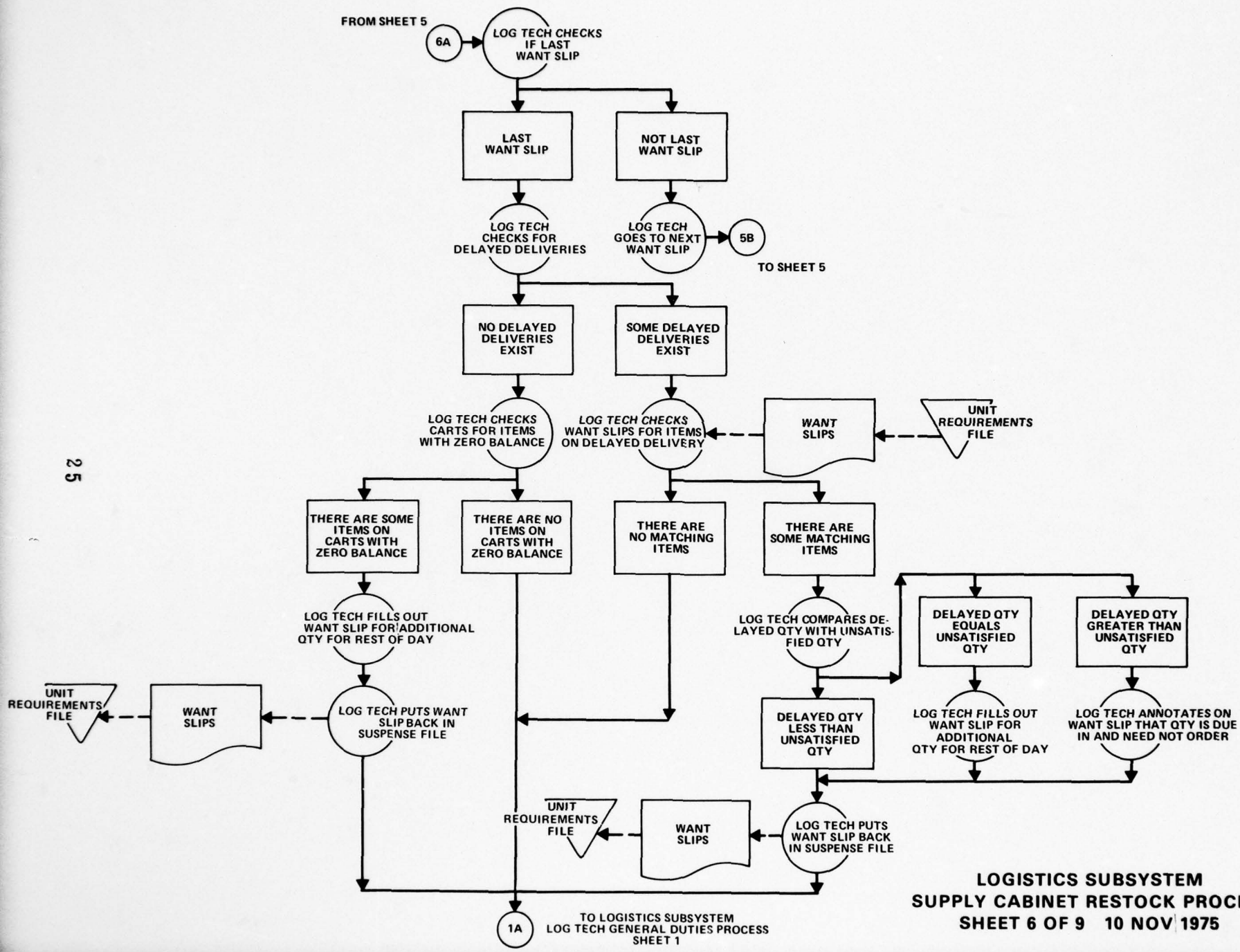
LOGISTICS SUBSYSTEM
SUPPLY CABINET RESTOCK PROCESS
SHEET 3 OF 9 10 NOV 1975



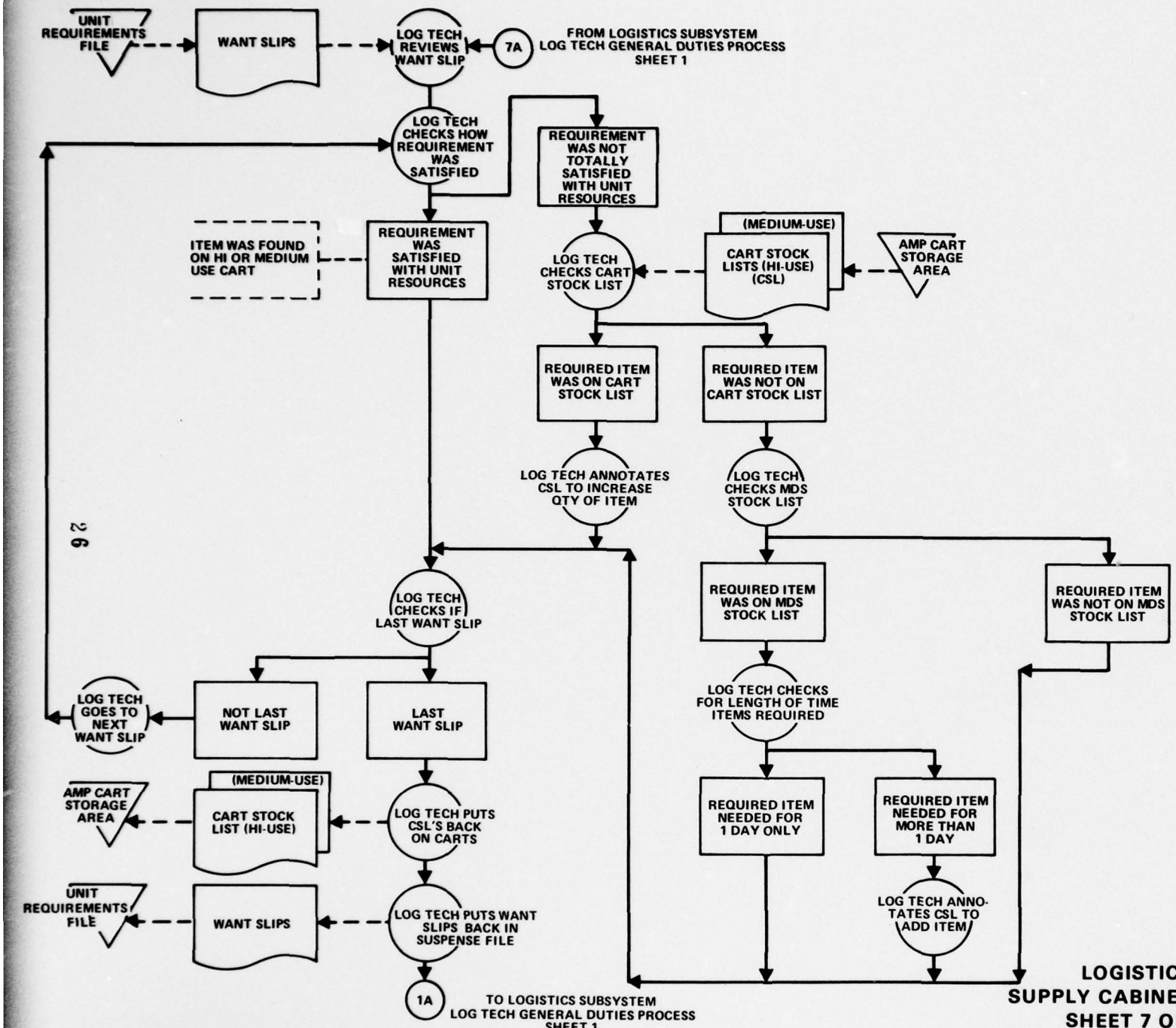
LOGISTICS SUBSYSTEM
SUPPLY CABINET RESTOCK PROCESS
SHEET 4 OF 9 10 NOV 1975



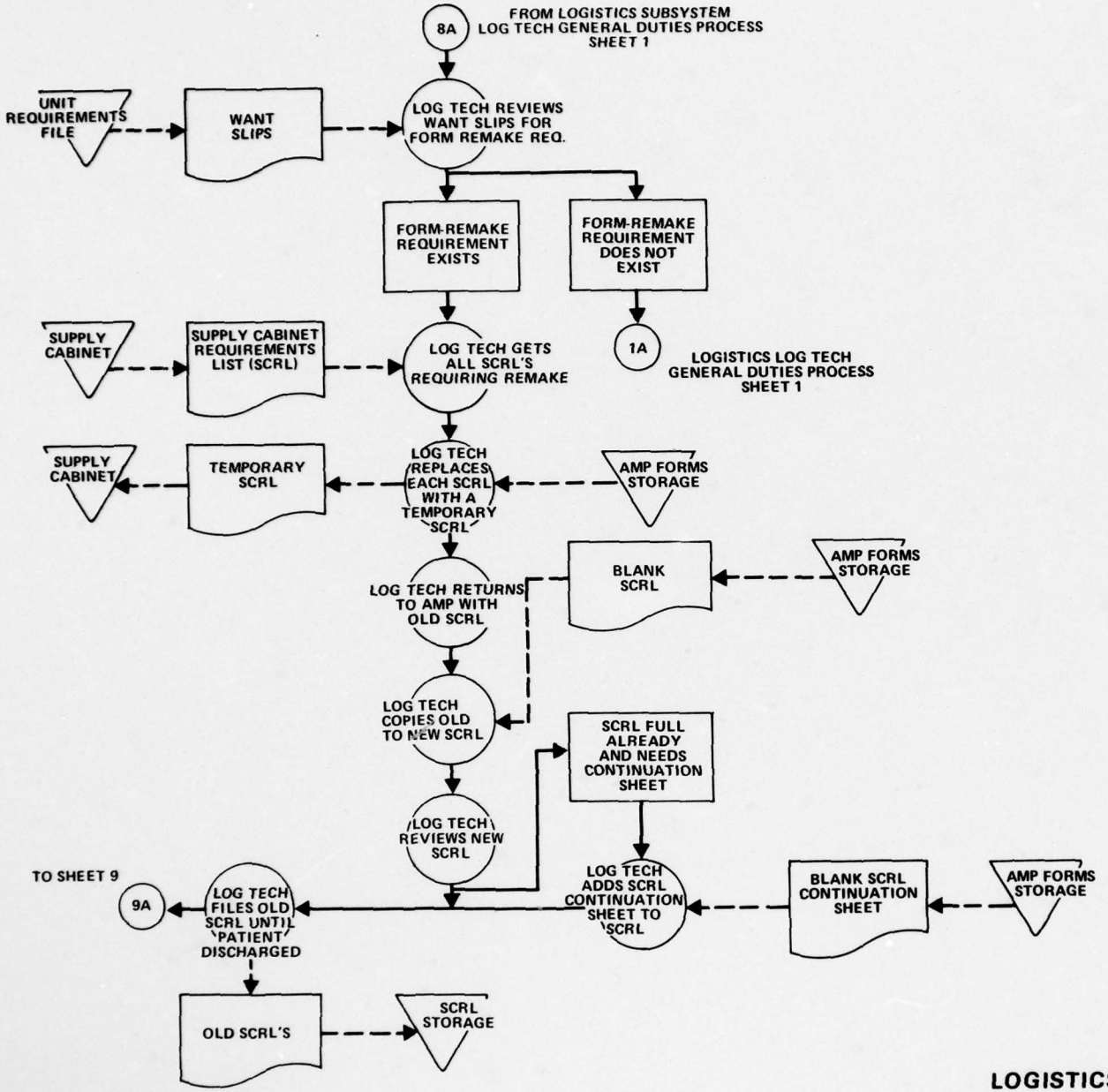
LOGISTICS SUBSYSTEM
SUPPLY CABINET RESTOCK PROCESS
SHEET 5 OF 9 10 NOV 1975



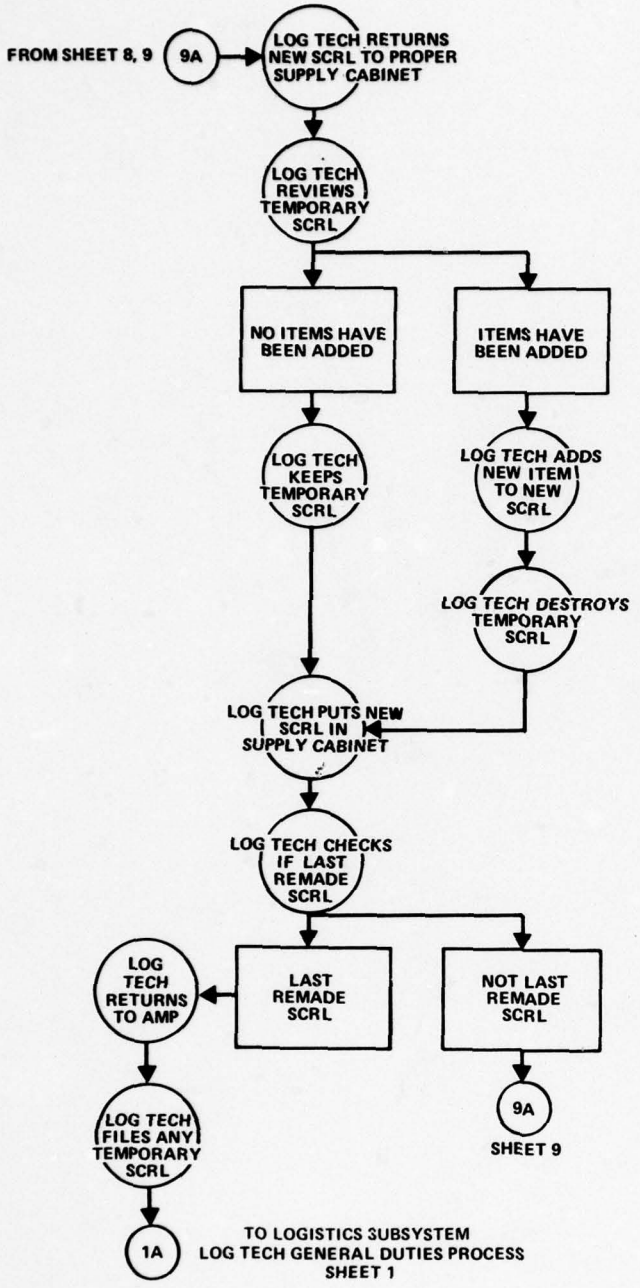
LOGISTICS SUBSYSTEM
SUPPLY CABINET RESTOCK PROCESS
SHEET 6 OF 9 10 NOV 1975



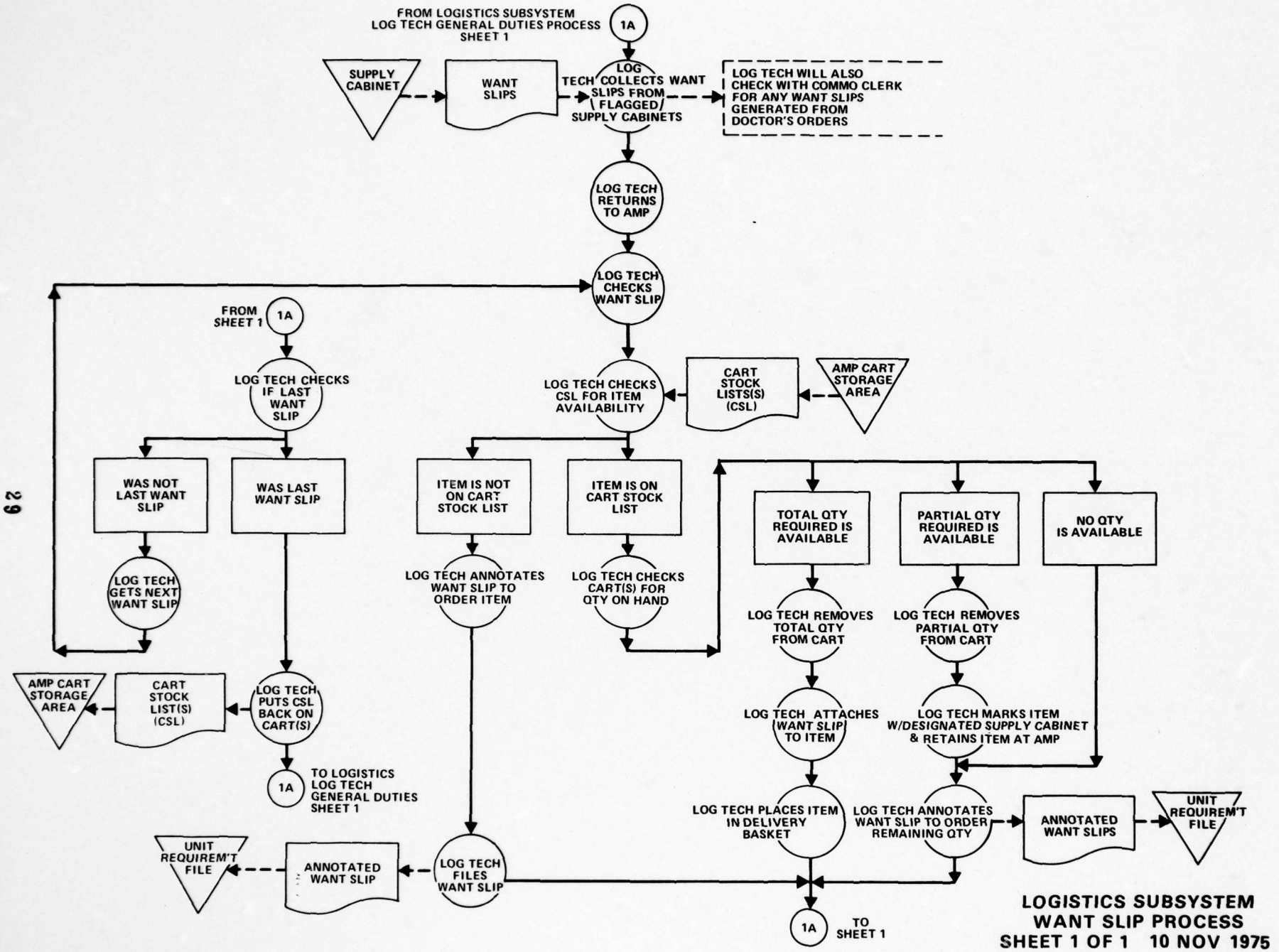
LOGISTICS SUBSYSTEM
SUPPLY CABINET RESTOCK PROCESS
SHEET 7 OF 9 10 NOV 1975



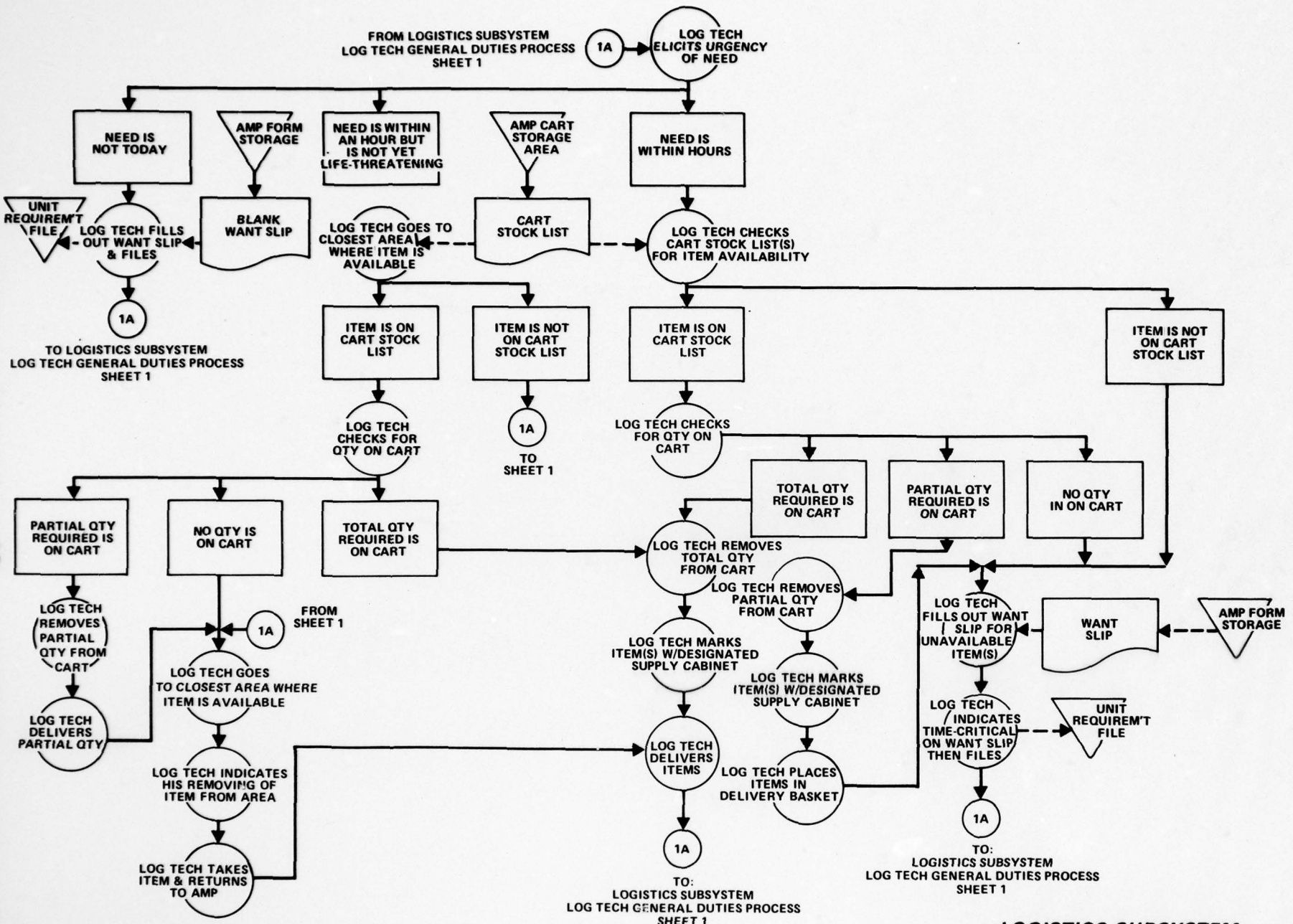
LOGISTICS SUBSYSTEM
SUPPLY CABINET RESTOCK PROCESS
SHEET 8 OF 9 10 NOV 1975



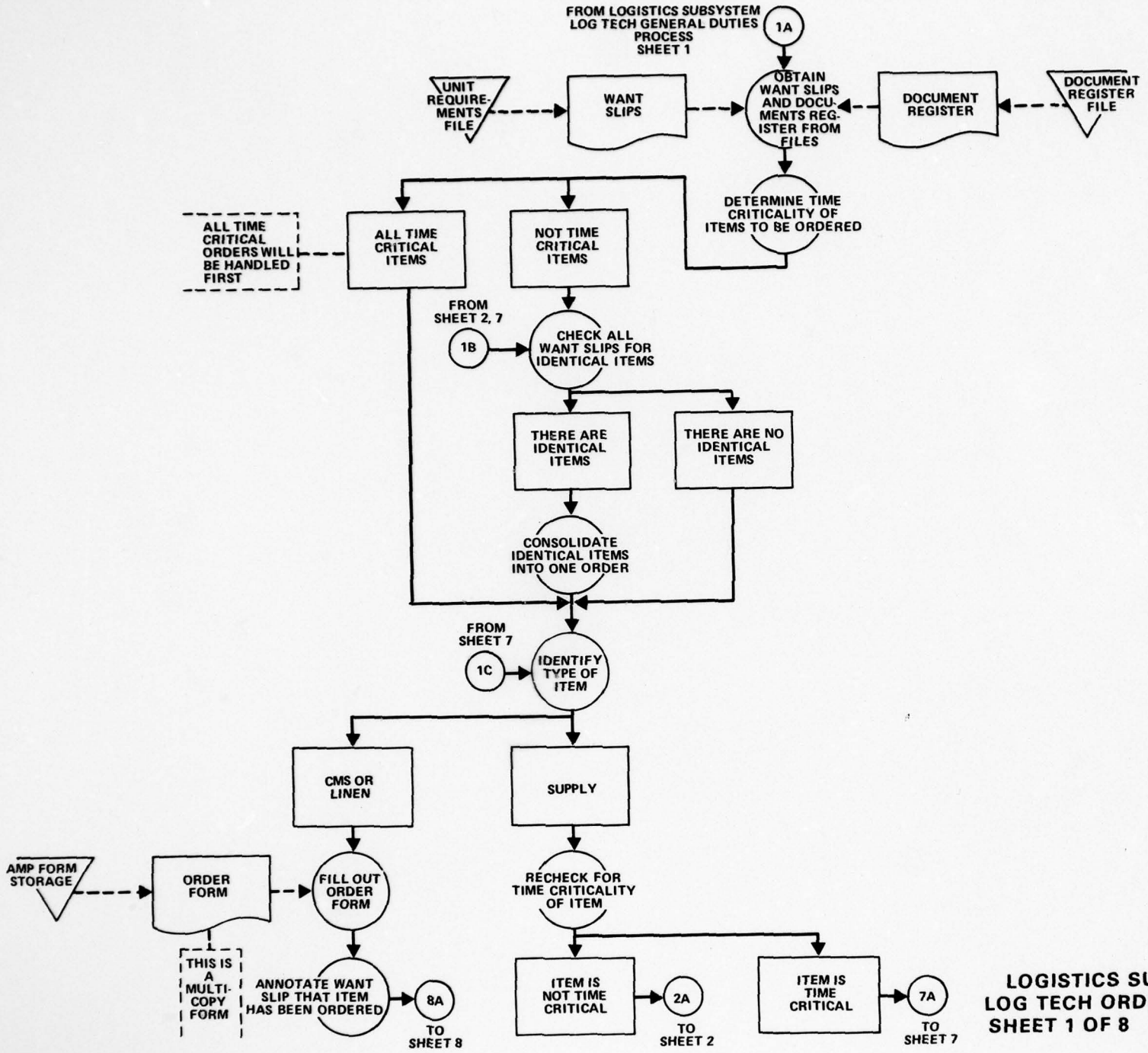
LOGISTICS SUBSYSTEM
SUPPLY CABINET RESTOCK PROCESS
SHEET 9 OF 9 10 NOV 1975



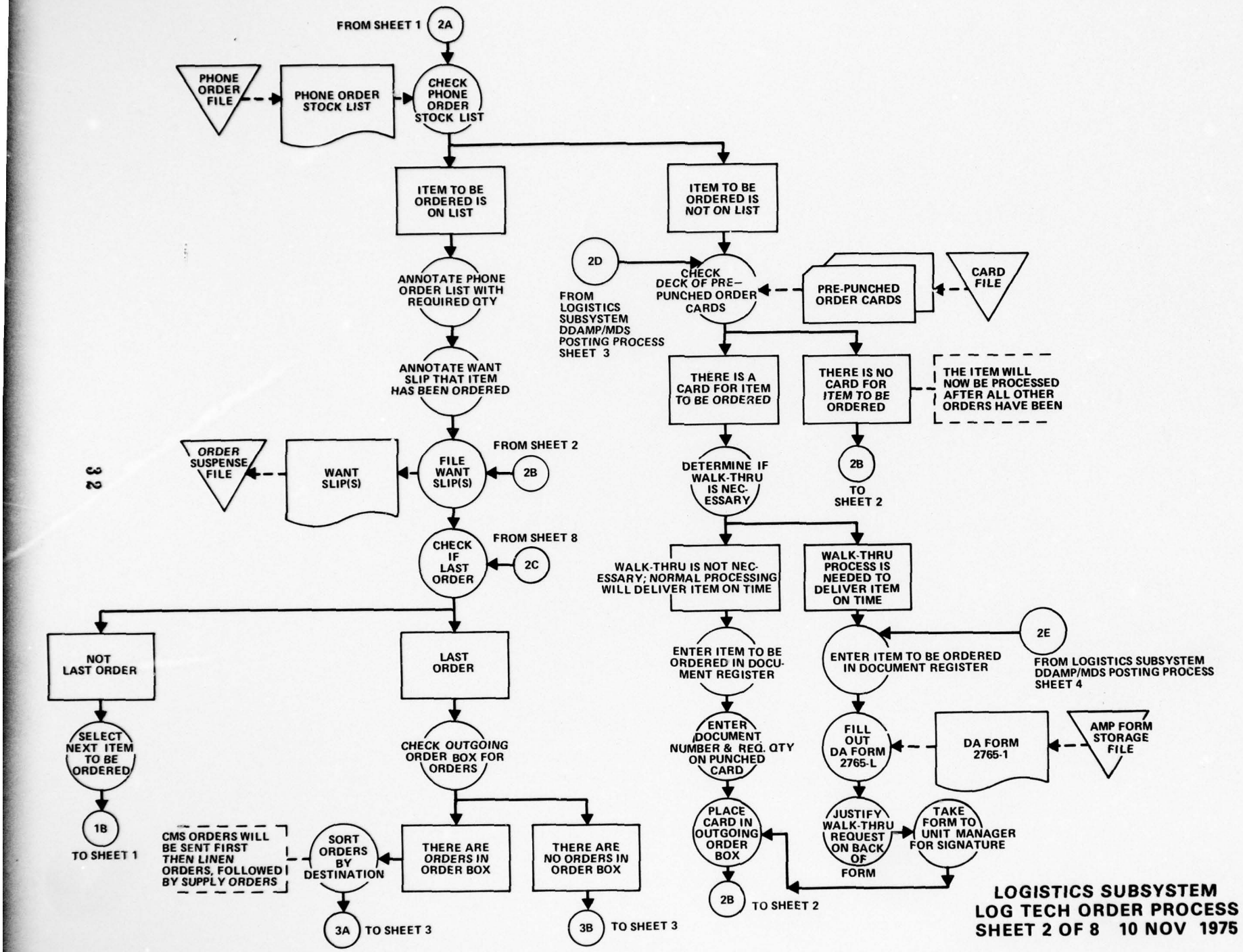
LOGISTICS SUBSYSTEM
WANT SLIP PROCESS
SHEET 1 OF 1 10 NOV 1975

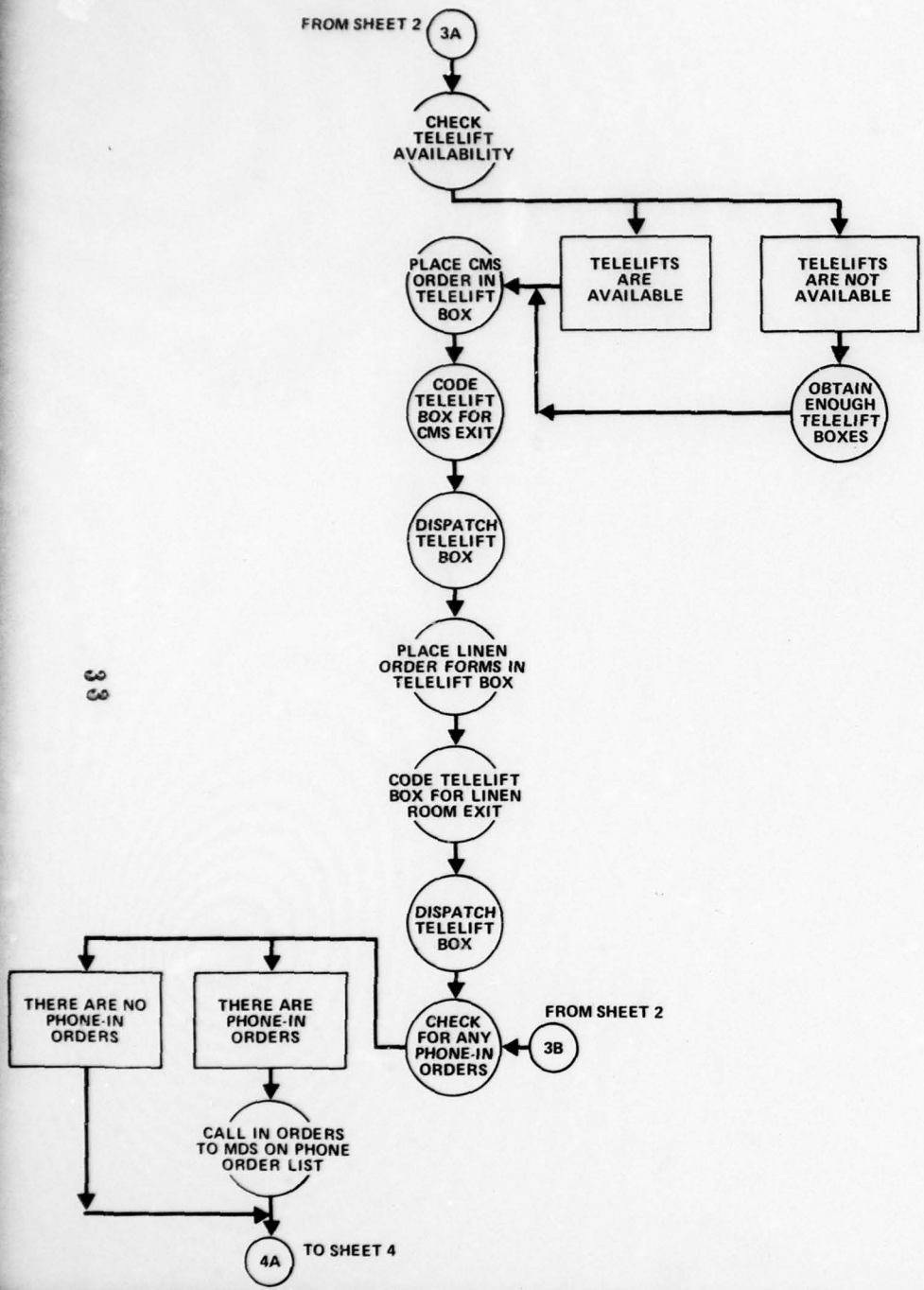


LOGISTICS SUBSYSTEM
ORAL COMMUNICATION PROCESS
SHEET 1 OF 1 10 NOV 1975



LOGISTICS SUBSYSTEM
LOG TECH ORDER PROCESS
SHEET 1 OF 8 10 NOV 1975

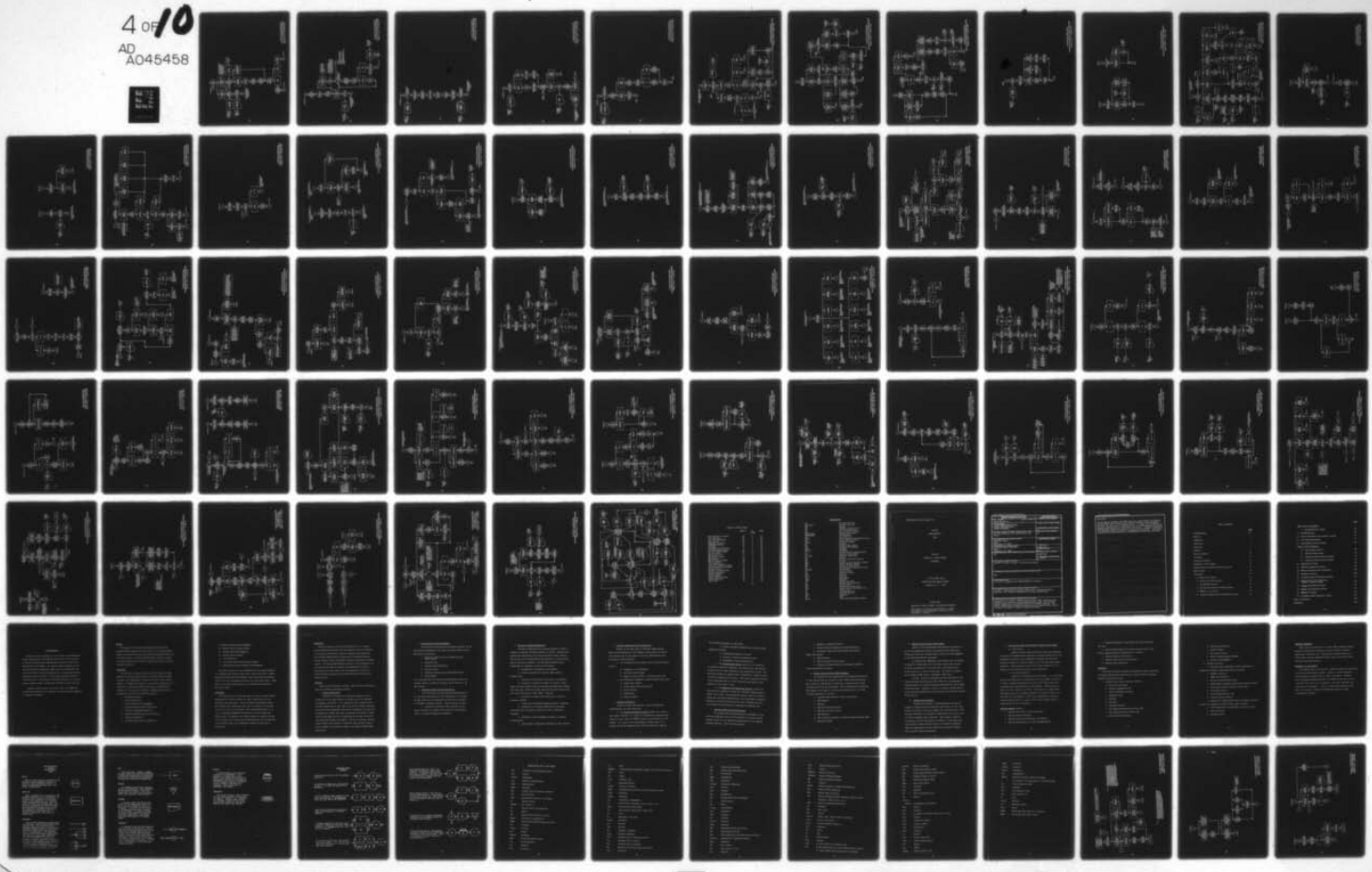

FROM SHEET 1
2A
PHONE ORDER FILE
PHONE ORDER STOCK LIST
CHECK PHONE ORDER STOCK LIST
ITEM TO BE ORDERED IS ON LIST
ITEM TO BE ORDERED IS NOT ON LIST
ANNOTATE PHONE ORDER LIST WITH REQUIRED QTY
ANNOTATE WANT SLIP THAT ITEM HAS BEEN ORDERED
2D
FROM LOGISTICS SUBSYSTEM DDAMP/MDS POSTING PROCESS SHEET 3
CHECK DECK OF PRE-PUNCHED ORDER CARDS
PRE-PUNCHED ORDER CARDS
CARD FILE
THERE IS A CARD FOR ITEM TO BE ORDERED
THERE IS NO CARD FOR ITEM TO BE ORDERED
THE ITEM WILL NOW BE PROCESSED AFTER ALL OTHER ORDERS HAVE BEEN
ORDER SUSPENSE FILE
WANT SLIP(S)
FILE WANT SLIP(S)
FROM SHEET 2
2B
DETERMINE IF WALK-THRU IS NECESSARY
2B
TO SHEET 2
FROM SHEET 8
2C
CHECK IF LAST ORDER
WALK-THRU IS NOT NECESSARY; NORMAL PROCESSING WILL DELIVER ITEM ON TIME
WALK-THRU PROCESS IS NEEDED TO DELIVER ITEM ON TIME
NOT LAST ORDER
LAST ORDER
ENTER ITEM TO BE ORDERED IN DOCUMENT REGISTER
ENTER ITEM TO BE ORDERED IN DOCUMENT REGISTER
2E
FROM LOGISTICS SUBSYSTEM DDAMP/MDS POSTING PROCESS SHEET 4
SELECT NEXT ITEM TO BE ORDERED
CHECK OUTGOING ORDER BOX FOR ORDERS
ENTER DOCUMENT NUMBER & REQ. QTY ON PUNCHED CARD
FILL OUT DA FORM 2765-L
DA FORM 2765-1
AMP FORM STORAGE FILE
1B
TO SHEET 1
CMS ORDERS WILL BE SENT FIRST THEN LINEN ORDERS, FOLLOWED BY SUPPLY ORDERS
SORT ORDERS BY DESTINATION
THERE ARE ORDERS IN ORDER BOX
THERE ARE NO ORDERS IN ORDER BOX
PLACE CARD IN OUTGOING ORDER BOX
JUSTIFY WALK-THRU REQUEST ON BACK OF FORM
TAKE FORM TO UNIT MANAGER FOR SIGNATURE
3A
TO SHEET 3
3B
TO SHEET 3
2B
TO SHEET 2
LOGISTICS SUBSYSTEM
LOG TECH ORDER PROCESS
SHEET 2 OF 8 10 NOV 1975

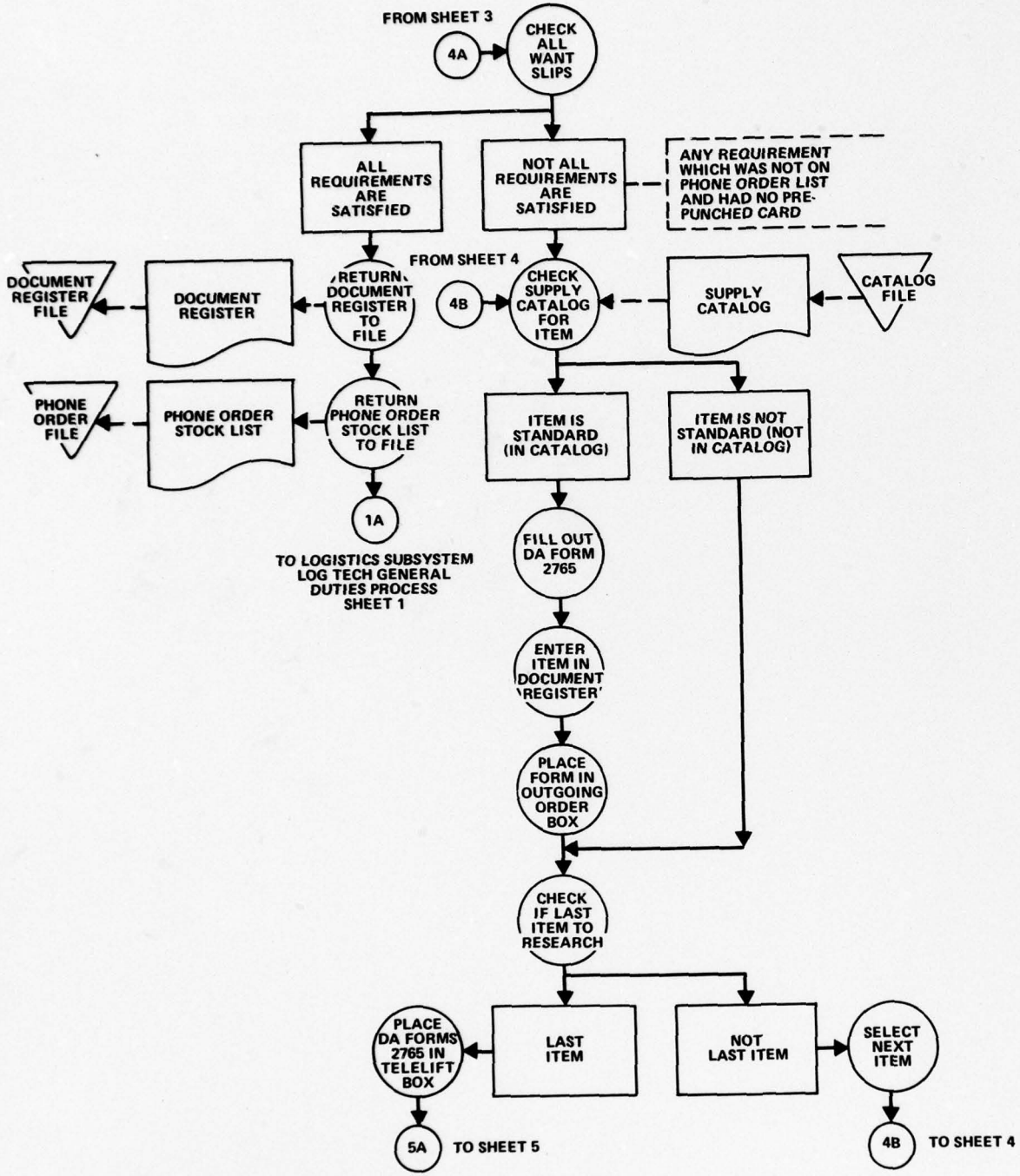


LOGISTICS SUBSYSTEM
LOG TECH ORDER PROCESS
SHEET 3 OF 8 10 NOV 1975

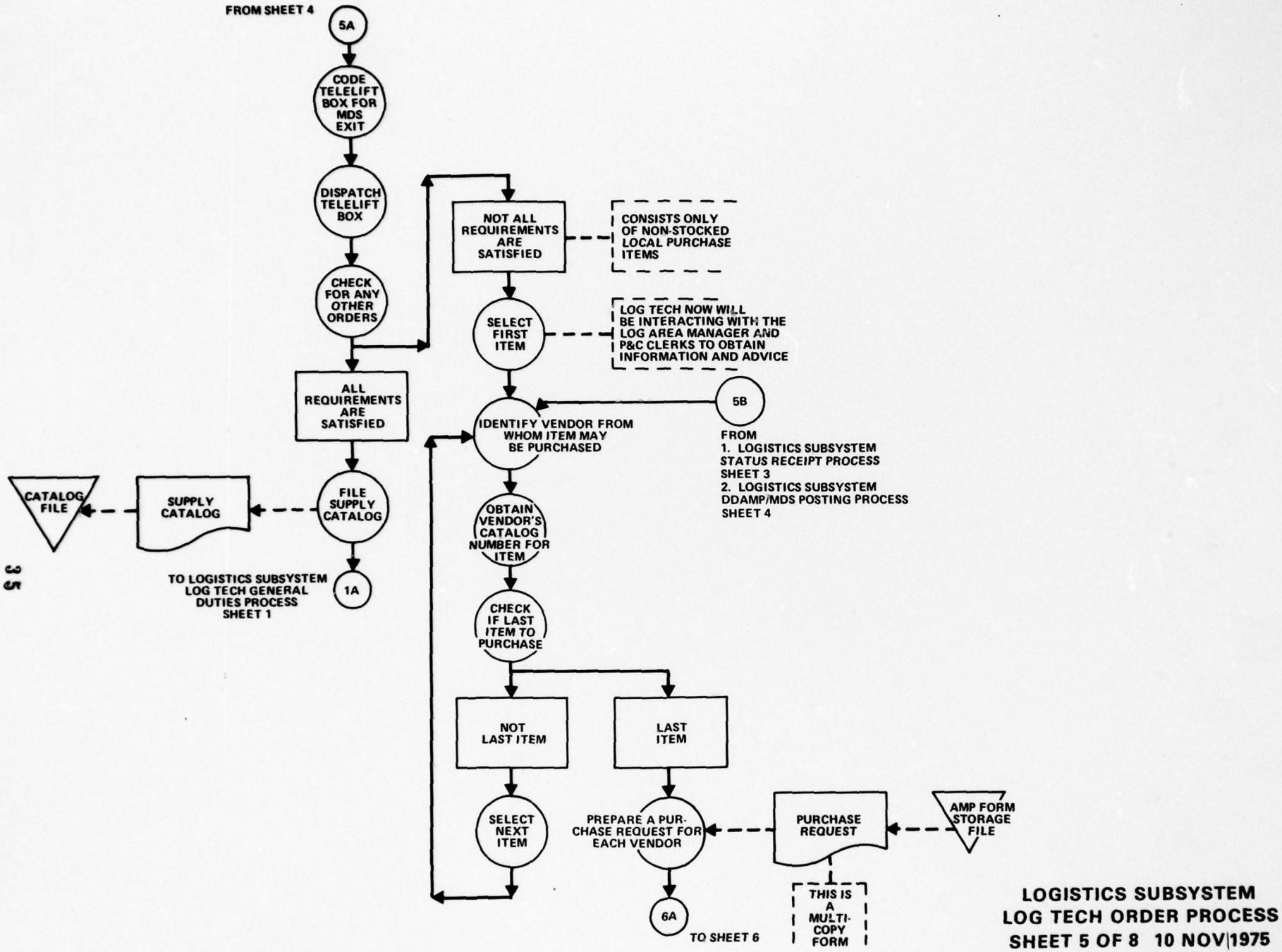
AD-A045 458 ARMY TRIMIS AGENCY WASHINGTON D C F/G 6/5
HEALTH CARE INFORMATION. PROCESS CONDITION-ACTION DIAGRAM FLOWC--ETC(U)
JAN 77 K SCHANK, F BOCK
UNCLASSIFIED TRIMIS-ARMY-TR-1 NL

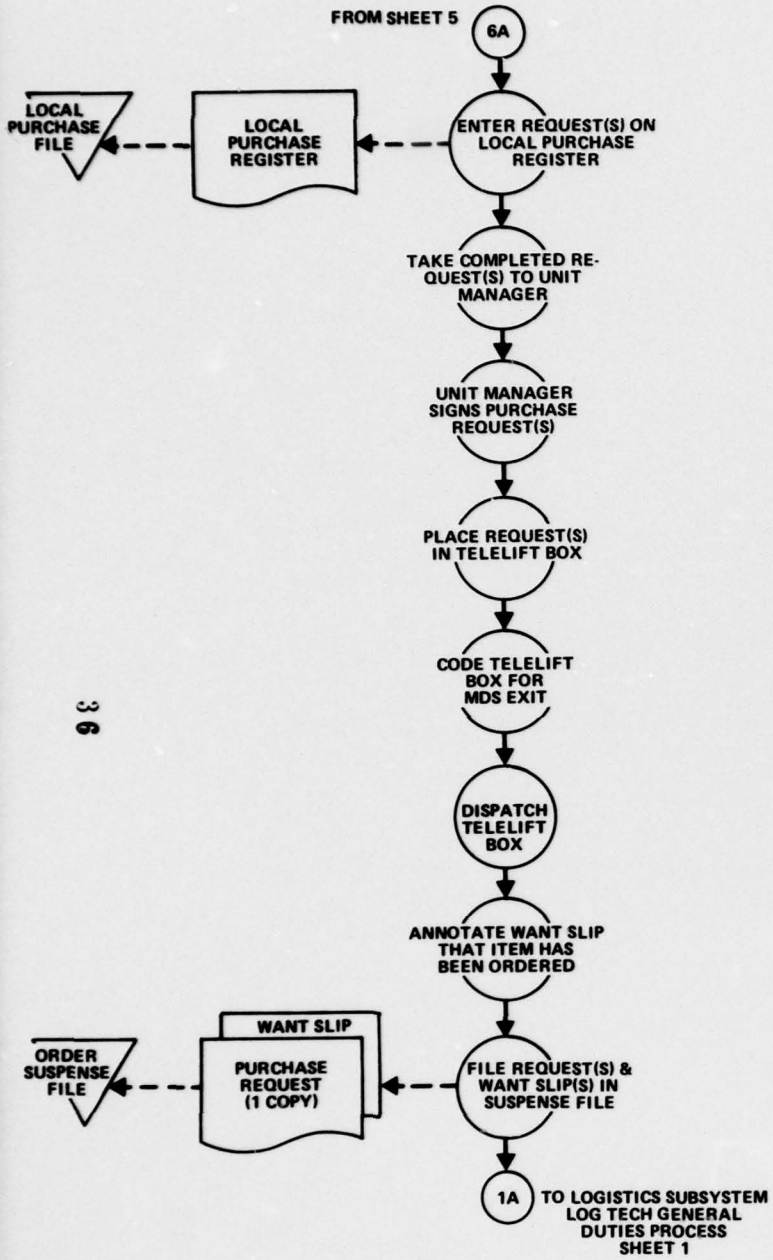
4 OF 10
AD A045458



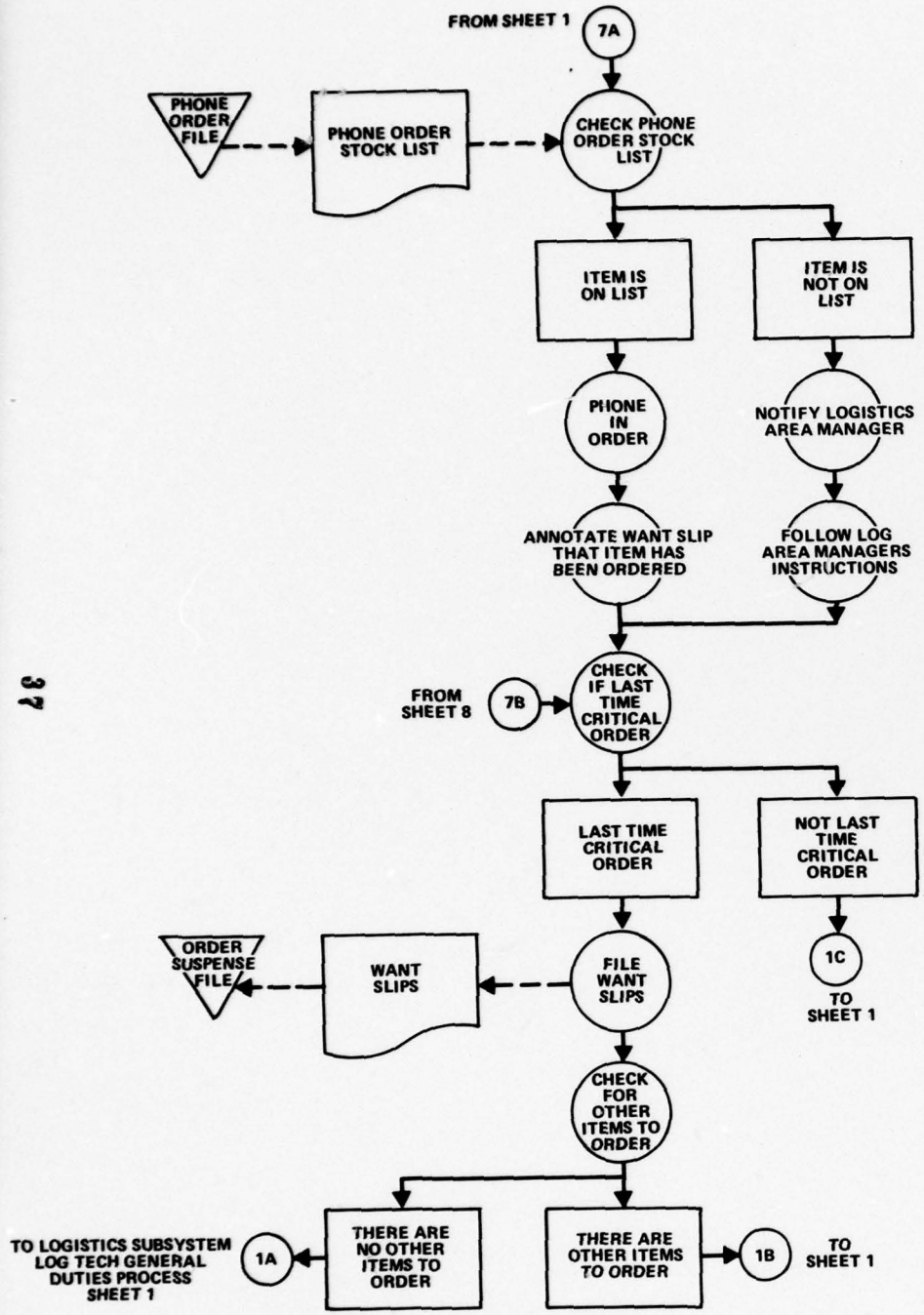


LOGISTICS SUBSYSTEM
LOG TECH ORDER PROCESS
SHEET 4 OF 8 10 NOV 1975

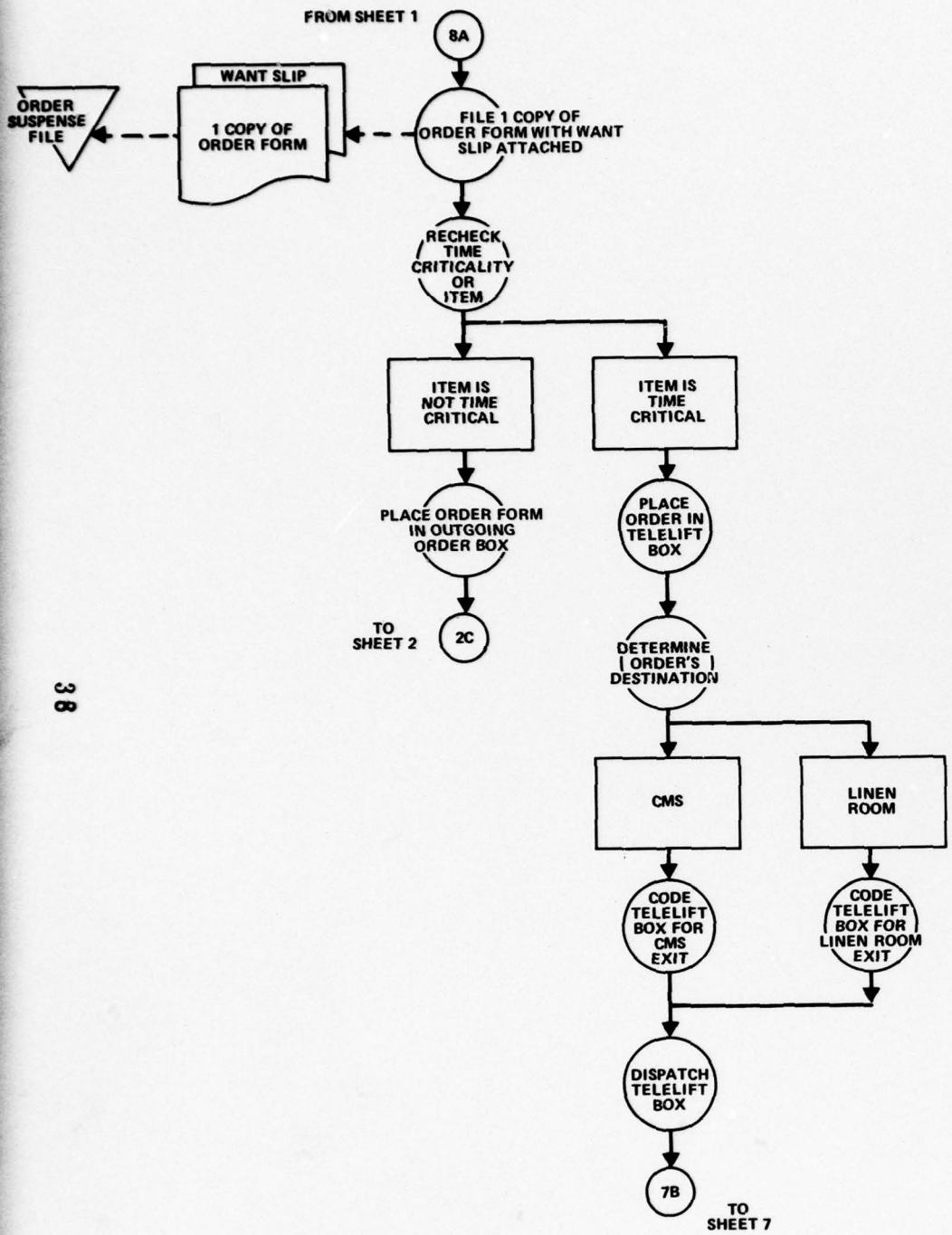

FROM SHEET 4
5A
CODE TELELIFT BOX FOR MDS EXIT
DISPATCH TELELIFT BOX
CHECK FOR ANY OTHER ORDERS
ALL REQUIREMENTS ARE SATISFIED
NOT ALL REQUIREMENTS ARE SATISFIED
CONSISTS ONLY OF NON-STOCKED LOCAL PURCHASE ITEMS
SELECT FIRST ITEM
LOG TECH NOW WILL BE INTERACTING WITH THE LOG AREA MANAGER AND P&C CLERKS TO OBTAIN INFORMATION AND ADVICE
5B
FROM
1. LOGISTICS SUBSYSTEM STATUS RECEIPT PROCESS SHEET 3
2. LOGISTICS SUBSYSTEM DDAMP/MDS POSTING PROCESS SHEET 4
IDENTIFY VENDOR FROM WHOM ITEM MAY BE PURCHASED
OBTAIN VENDOR'S CATALOG NUMBER FOR ITEM
CHECK IF LAST ITEM TO PURCHASE
NOT LAST ITEM
LAST ITEM
SELECT NEXT ITEM
PREPARE A PURCHASE REQUEST FOR EACH VENDOR
PURCHASE REQUEST
AMP FORM STORAGE FILE
THIS IS A MULTI-COPY FORM
6A
TO SHEET 6
FILE SUPPLY CATALOG
SUPPLY CATALOG
CATALOG FILE
TO LOGISTICS SUBSYSTEM LOG TECH GENERAL DUTIES PROCESS SHEET 1
1A
LOGISTICS SUBSYSTEM
LOG TECH ORDER PROCESS
SHEET 5 OF 8 10 NOV 1975



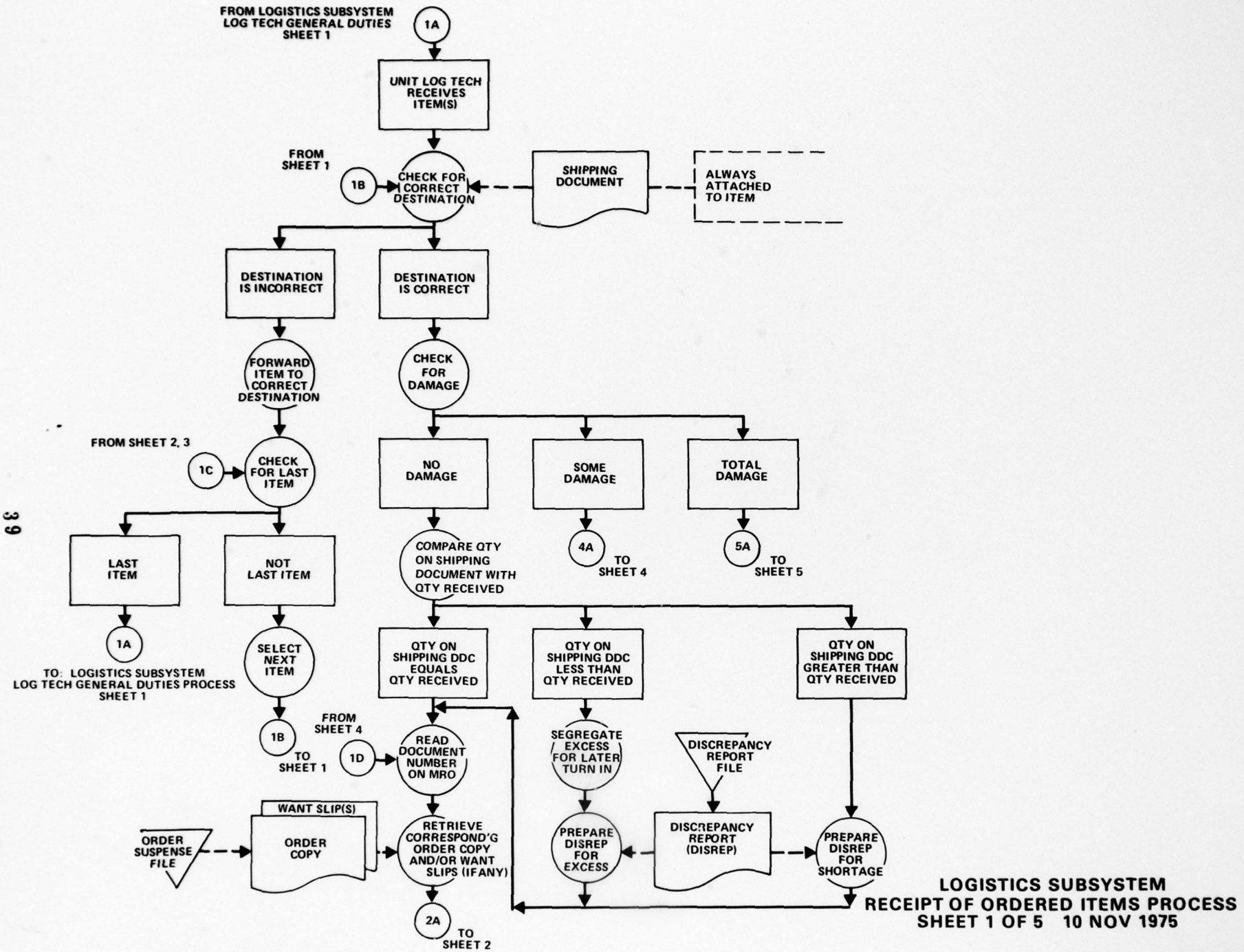
LOGISTICS SUBSYSTEM
LOG TECH ORDER PROCESS
SHEET 6 OF 8 10 NOV 1975



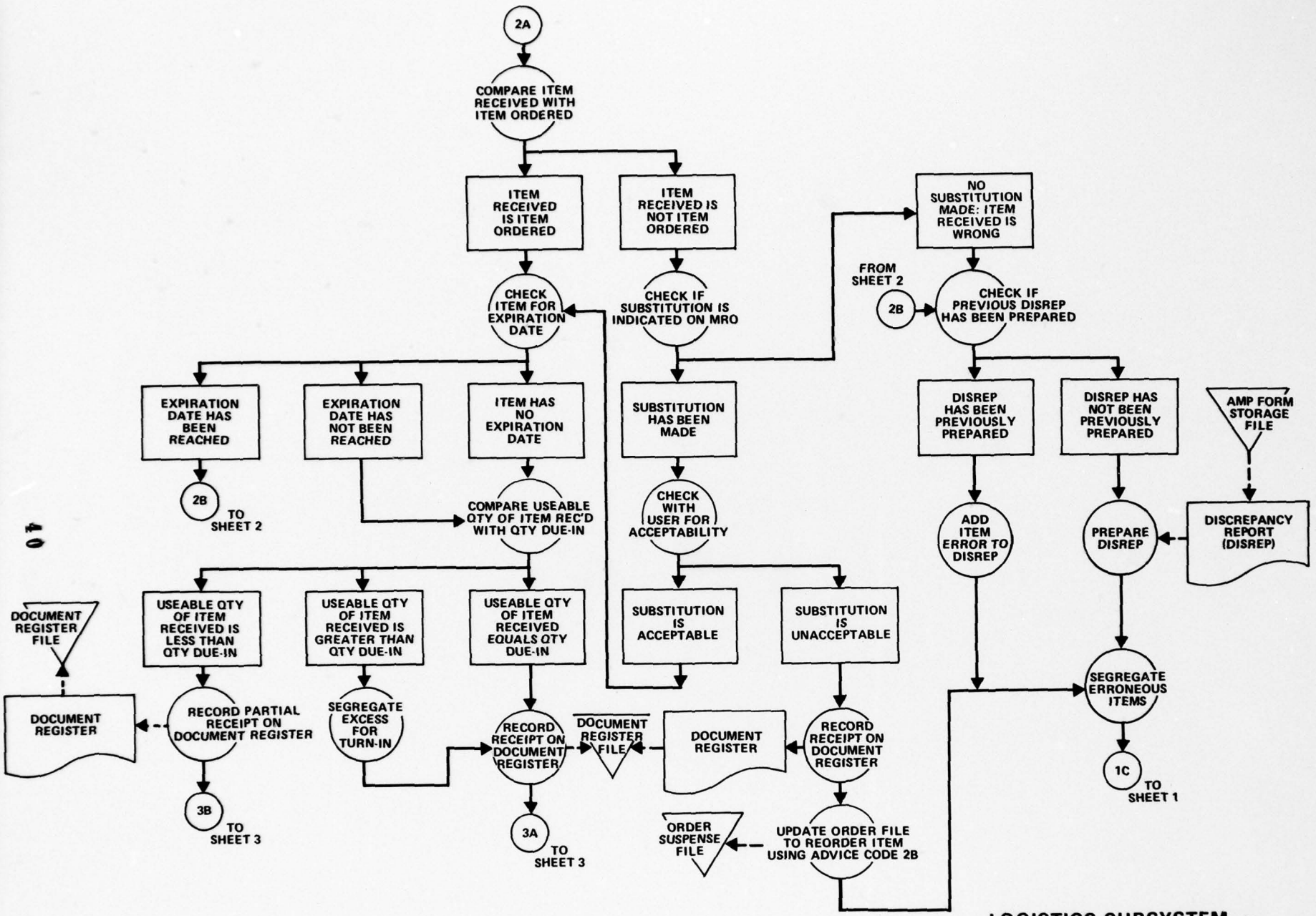
LOGISTICS SUBSYSTEM
LOG. TECH ORDER PROCESS
SHEET 7 OF 8 10 NOV 1975



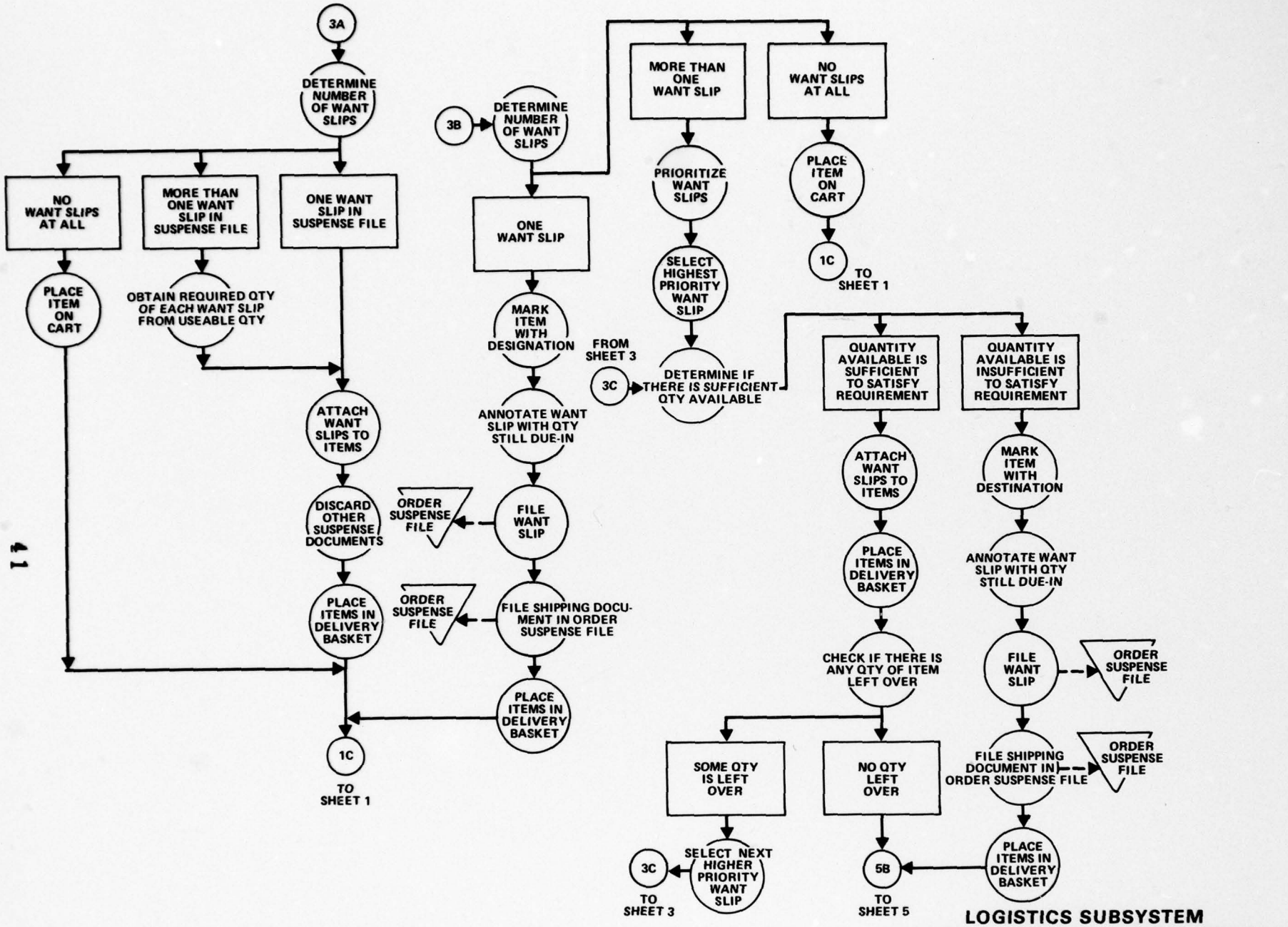
LOGISTICS SUBSYSTEM
LOG TECH ORDER PROCESS
SHEET 8 OF 8 10 NOV 1975



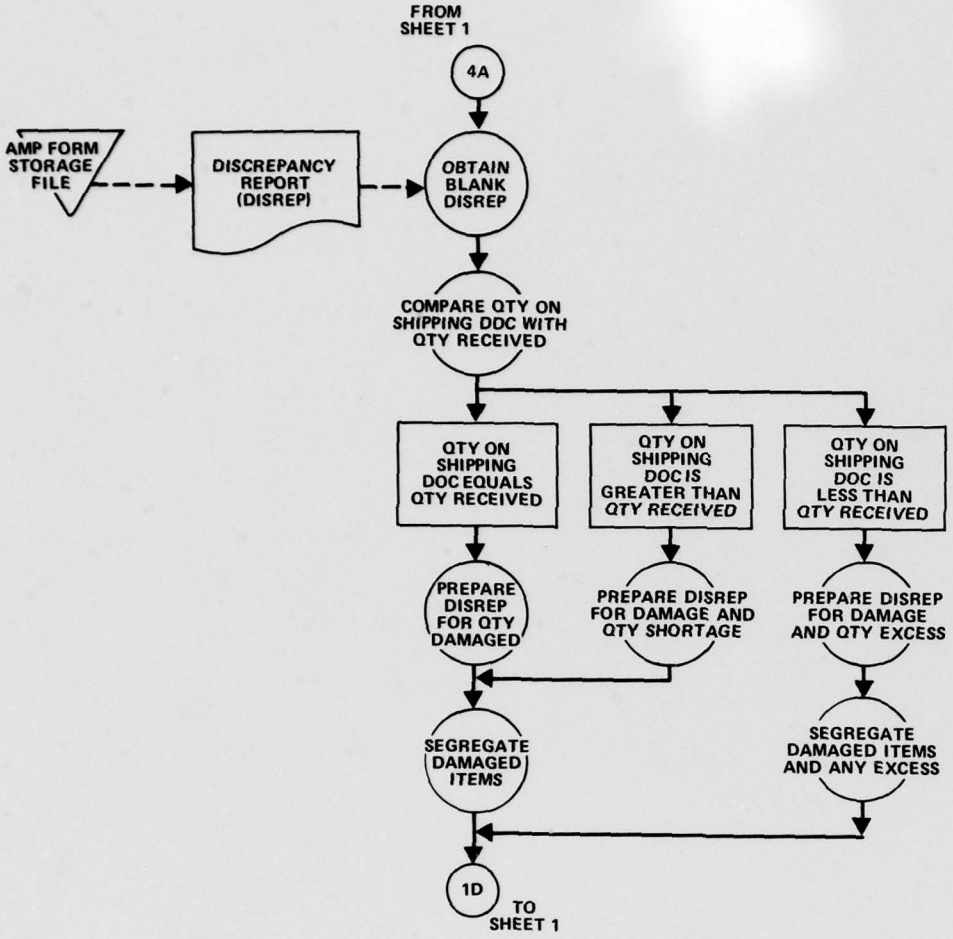
LOGISTICS SUBSYSTEM
RECEIPT OF ORDERED ITEMS PROCESS
SHEET 1 OF 5 10 NOV 1975



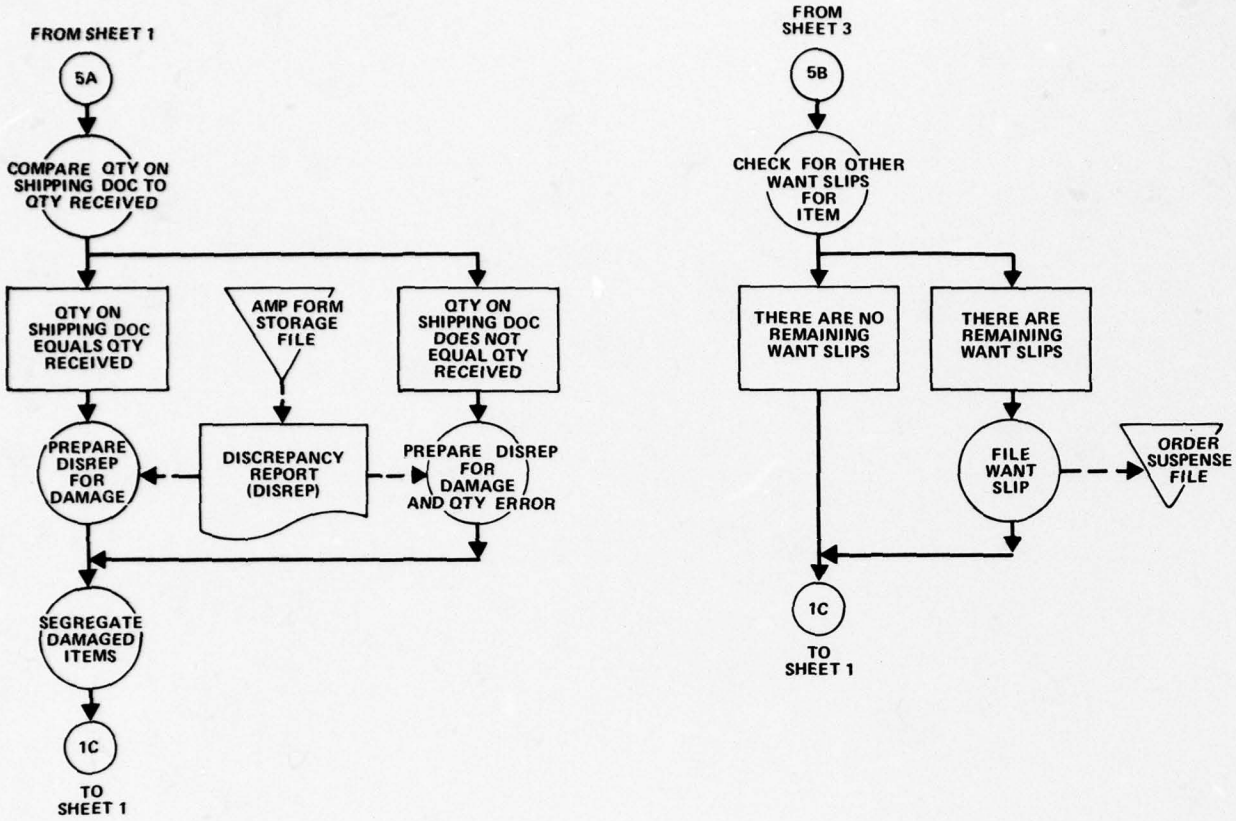
LOGISTICS SUBSYSTEM
RECEIPT OF ORDERED ITEMS PROCESS
SHEET 2 OF 5 10 NOV 1975



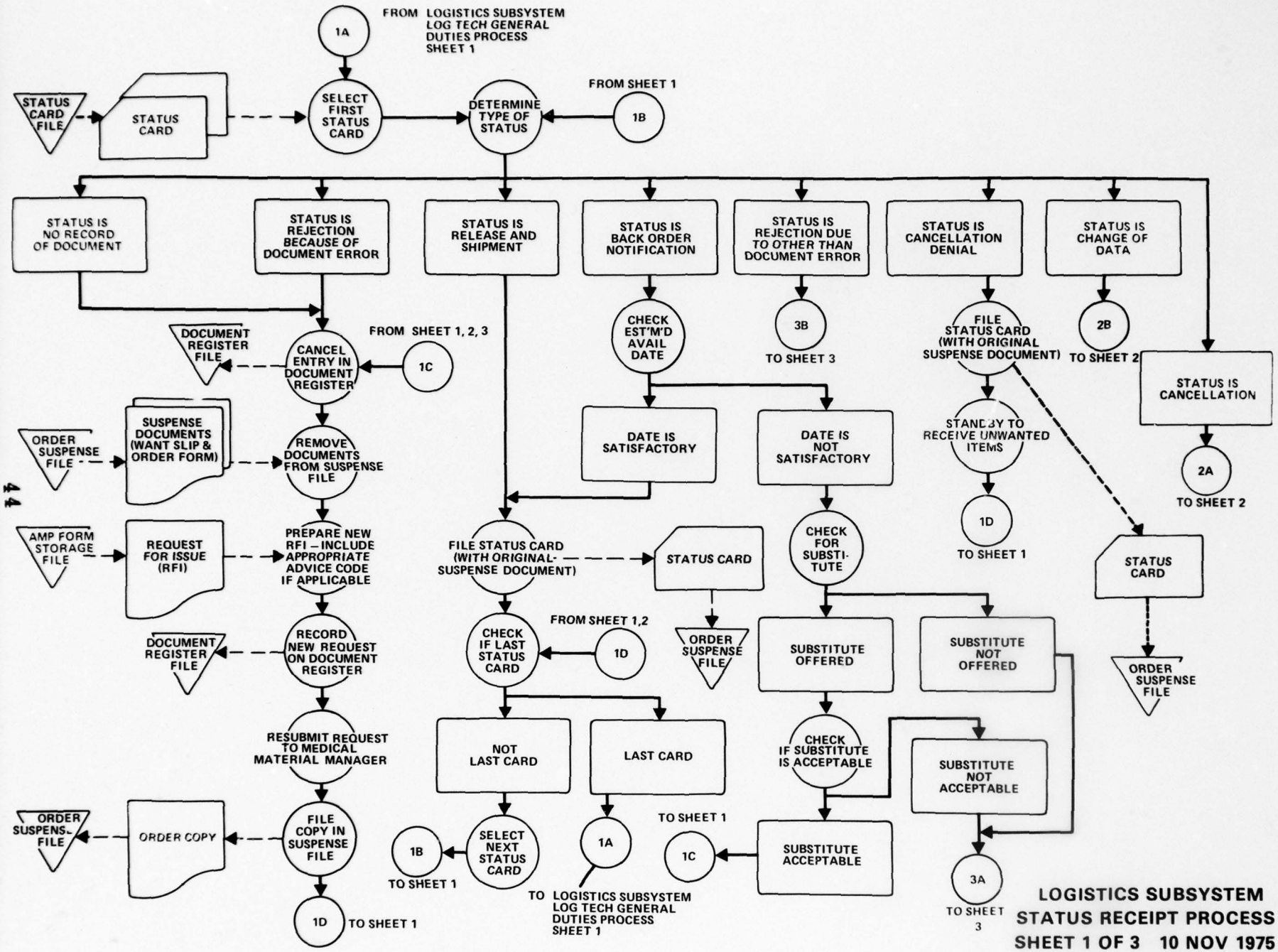
LOGISTICS SUBSYSTEM
RECEIPT OF ORDERED ITEMS PROCESS
SHEET 3 OF 5 10 NOV 1975

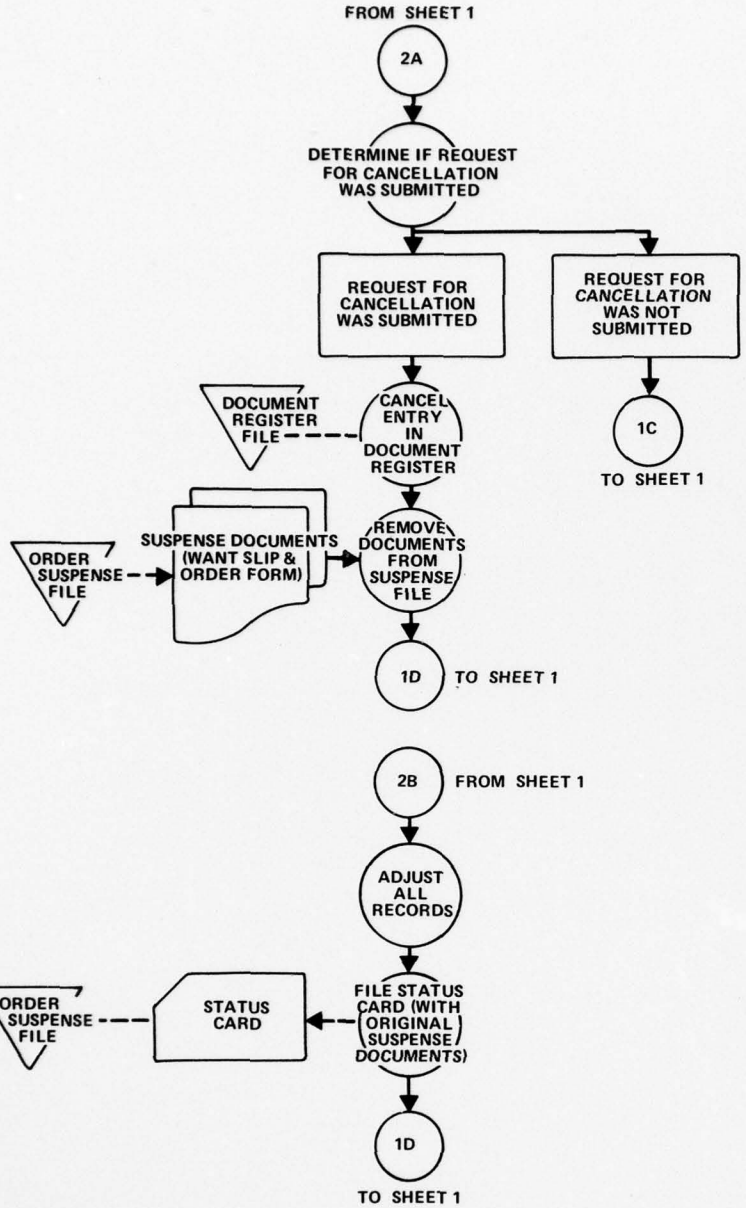


LOGISTICS SUBSYSTEM
RECEIPT OF ORDERED ITEMS PROCESS
SHEET 4 OF 5 10 NOV 1975

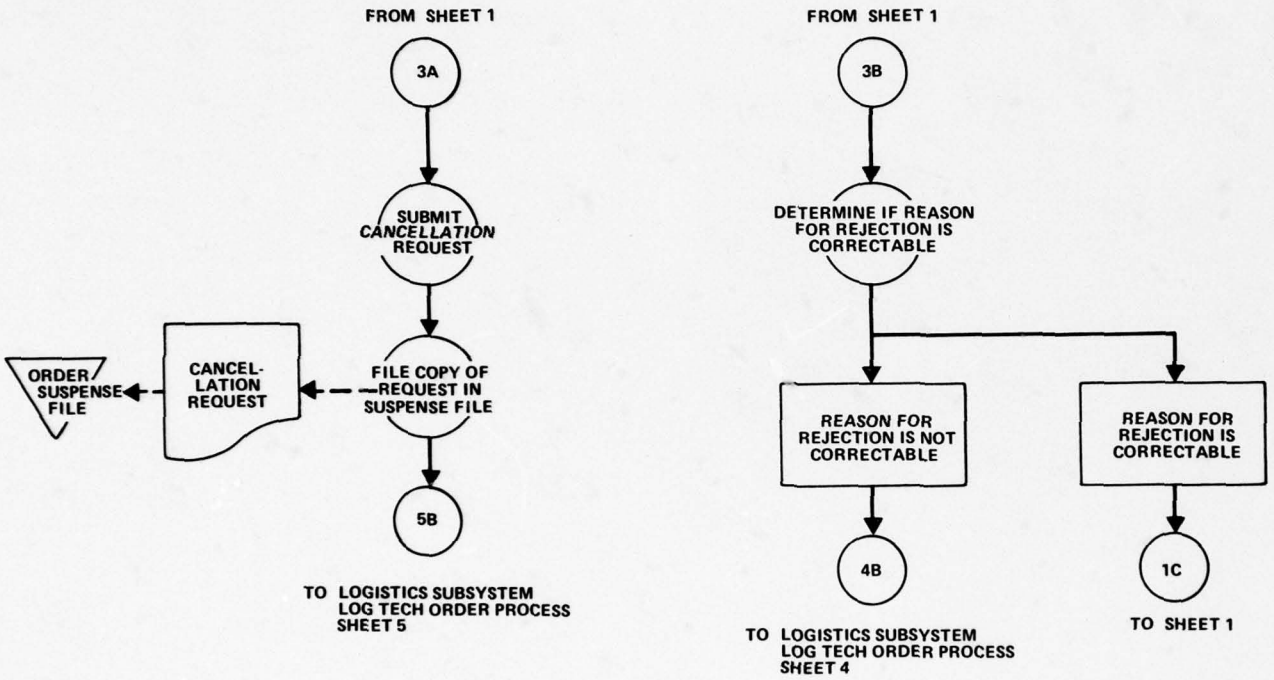


LOGISTICS SUBSYSTEM
RECEIPT OF ORDERED ITEMS PROCESS
SHEET 5 OF 5 10 NOV 1975

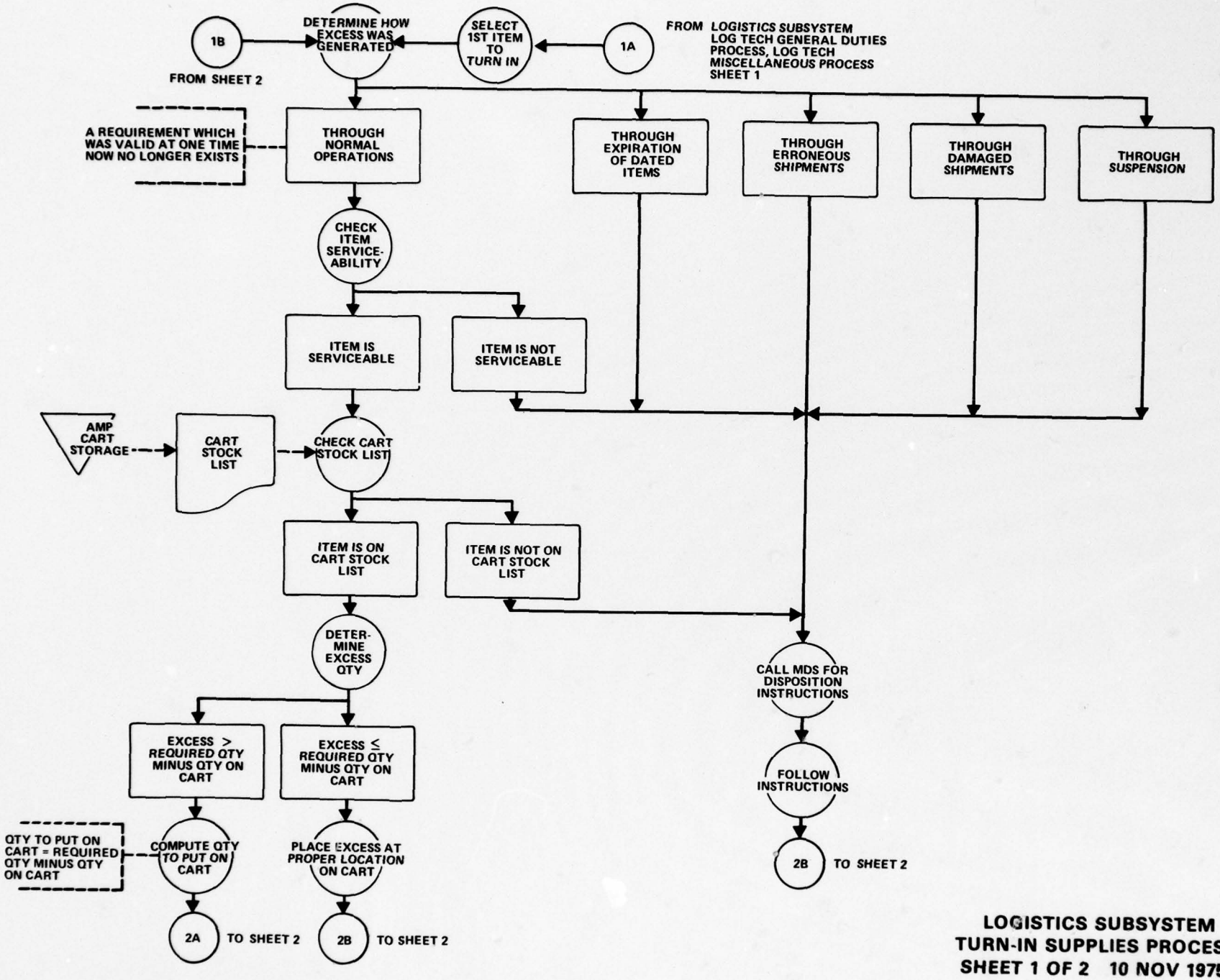

1A
FROM LOGISTICS SUBSYSTEM LOG TECH GENERAL DUTIES PROCESS SHEET 1
STATUS CARD FILE
STATUS CARD
SELECT FIRST STATUS CARD
DETERMINE TYPE OF STATUS
FROM SHEET 1
1B
STATUS IS NO RECORD OF DOCUMENT
STATUS IS REJECTION BECAUSE OF DOCUMENT ERROR
STATUS IS RELEASE AND SHIPMENT
STATUS IS BACK ORDER NOTIFICATION
STATUS IS REJECTION DUE TO OTHER THAN DOCUMENT ERROR
STATUS IS CANCELLATION DENIAL
STATUS IS CHANGE OF DATA
DOCUMENT REGISTER FILE
CANCEL ENTRY IN DOCUMENT REGISTER
FROM SHEET 1, 2, 3
1C
CHECK EST'M'D AVAIL DATE
3B
TO SHEET 3
FILE STATUS CARD (WITH ORIGINAL SUSPENSE DOCUMENT)
2B
TO SHEET 2
STATUS IS CANCELLATION
2A
TO SHEET 2
ORDER SUSPENSE FILE
SUSPENSE DOCUMENTS (WANT SLIP & ORDER FORM)
REMOVE DOCUMENTS FROM SUSPENSE FILE
DATE IS SATISFACTORY
DATE IS NOT SATISFACTORY
STANDBY TO RECEIVE UNWANTED ITEMS
1D
TO SHEET 1
AMP FORM STORAGE FILE
REQUEST FOR ISSUE (RFI)
PREPARE NEW RFI – INCLUDE APPROPRIATE ADVICE CODE IF APPLICABLE
FILE STATUS CARD (WITH ORIGINAL SUSPENSE DOCUMENT)
STATUS CARD
CHECK FOR SUBSTI-TUTE
STATUS CARD
ORDER SUSPENSE FILE
DOCUMENT REGISTER FILE
RECORD NEW REQUEST ON DOCUMENT REGISTER
CHECK IF LAST STATUS CARD
FROM SHEET 1,2
1D
ORDER SUSPENSE FILE
SUBSTITUTE OFFERED
SUBSTITUTE NOT OFFERED
ORDER SUSPENSE FILE
RESUBMIT REQUEST TO MEDICAL MATERIAL MANAGER
NOT LAST CARD
LAST CARD
CHECK IF SUBSTITUTE IS ACCEPTABLE
SUBSTITUTE NOT ACCEPTABLE
ORDER SUSPENSE FILE
ORDER COPY
FILE COPY IN SUSPENSE FILE
1B
TO SHEET 1
SELECT NEXT STATUS CARD
1A
TO LOGISTICS SUBSYSTEM LOG TECH GENERAL DUTIES PROCESS SHEET 1
TO SHEET 1
1C
SUBSTITUTE ACCEPTABLE
3A
TO SHEET 3
1D
TO SHEET 1
LOGISTICS SUBSYSTEM
STATUS RECEIPT PROCESS
SHEET 1 OF 3 10 NOV 1975



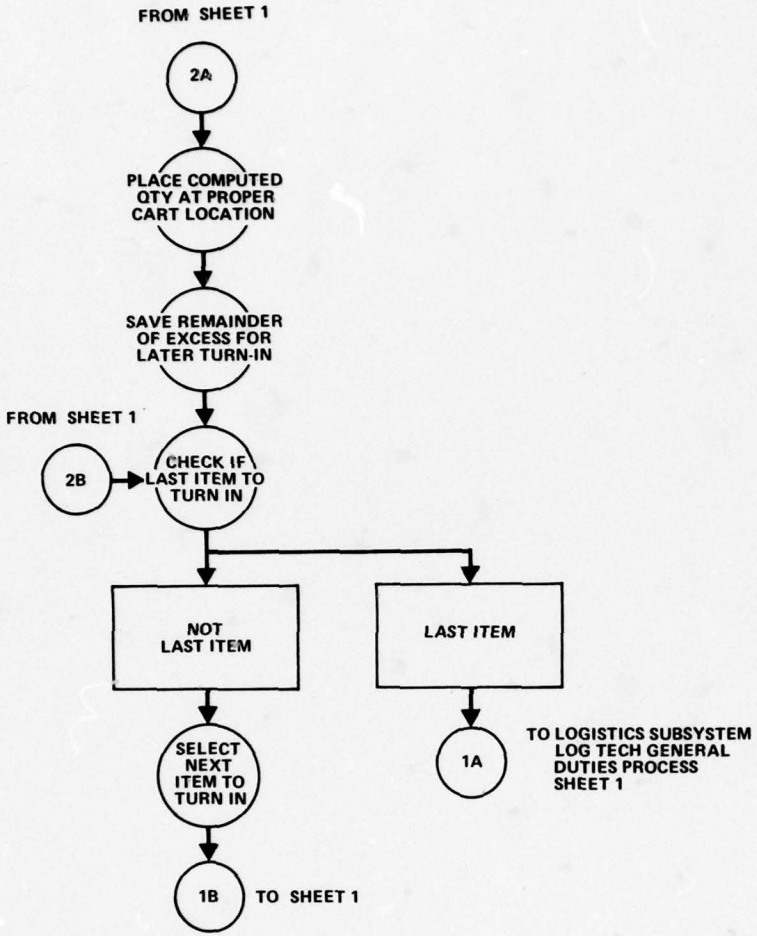
LOGISTICS SUBSYSTEM
STATUS RECEIPT PROCESS
SHEET 2 OF 3 10 NOV 1975



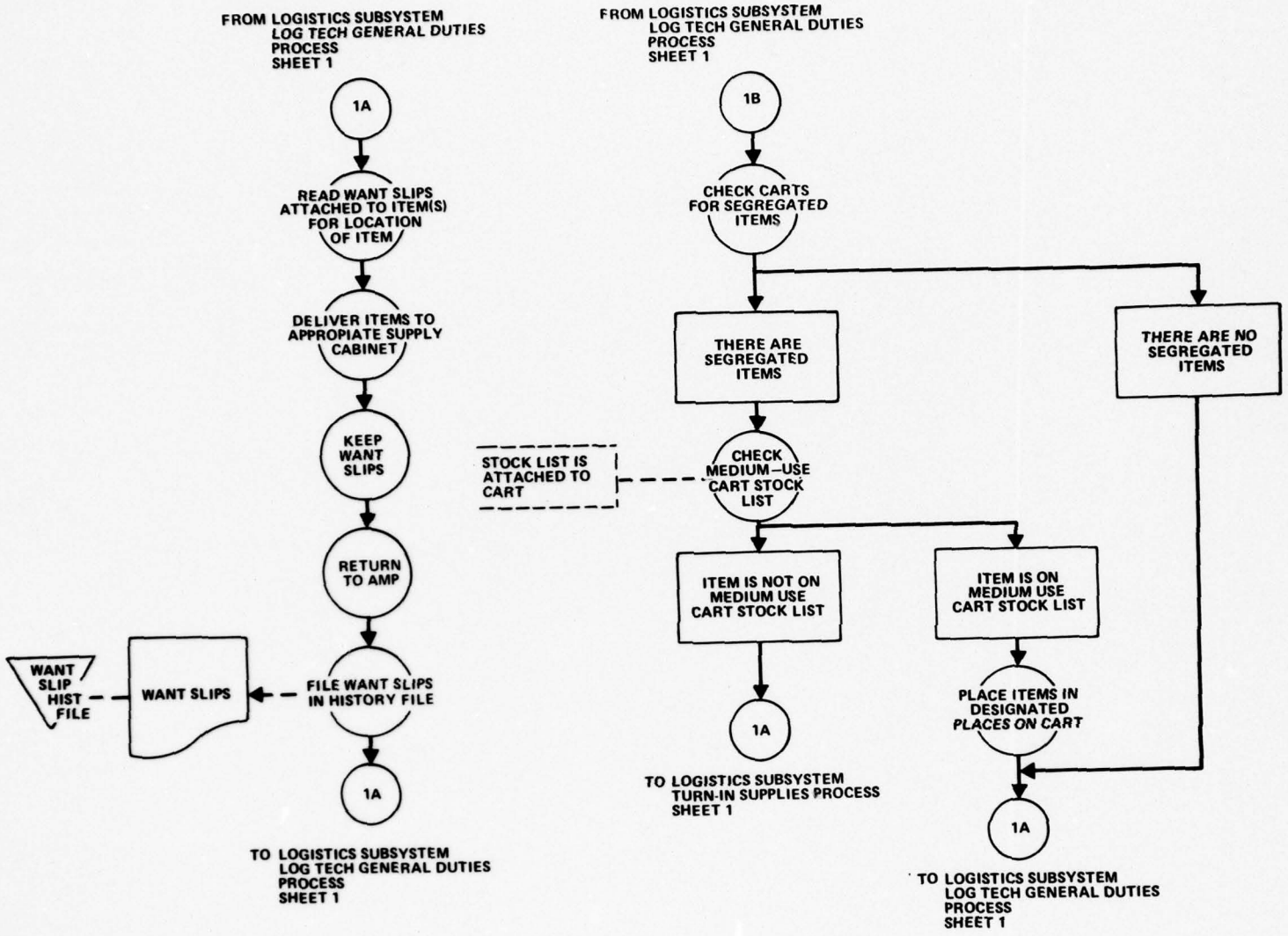
LOGISTICS SUBSYSTEM
STATUS RECEIPT PROCESS
SHEET 3 OF 3 10 NOV 1975



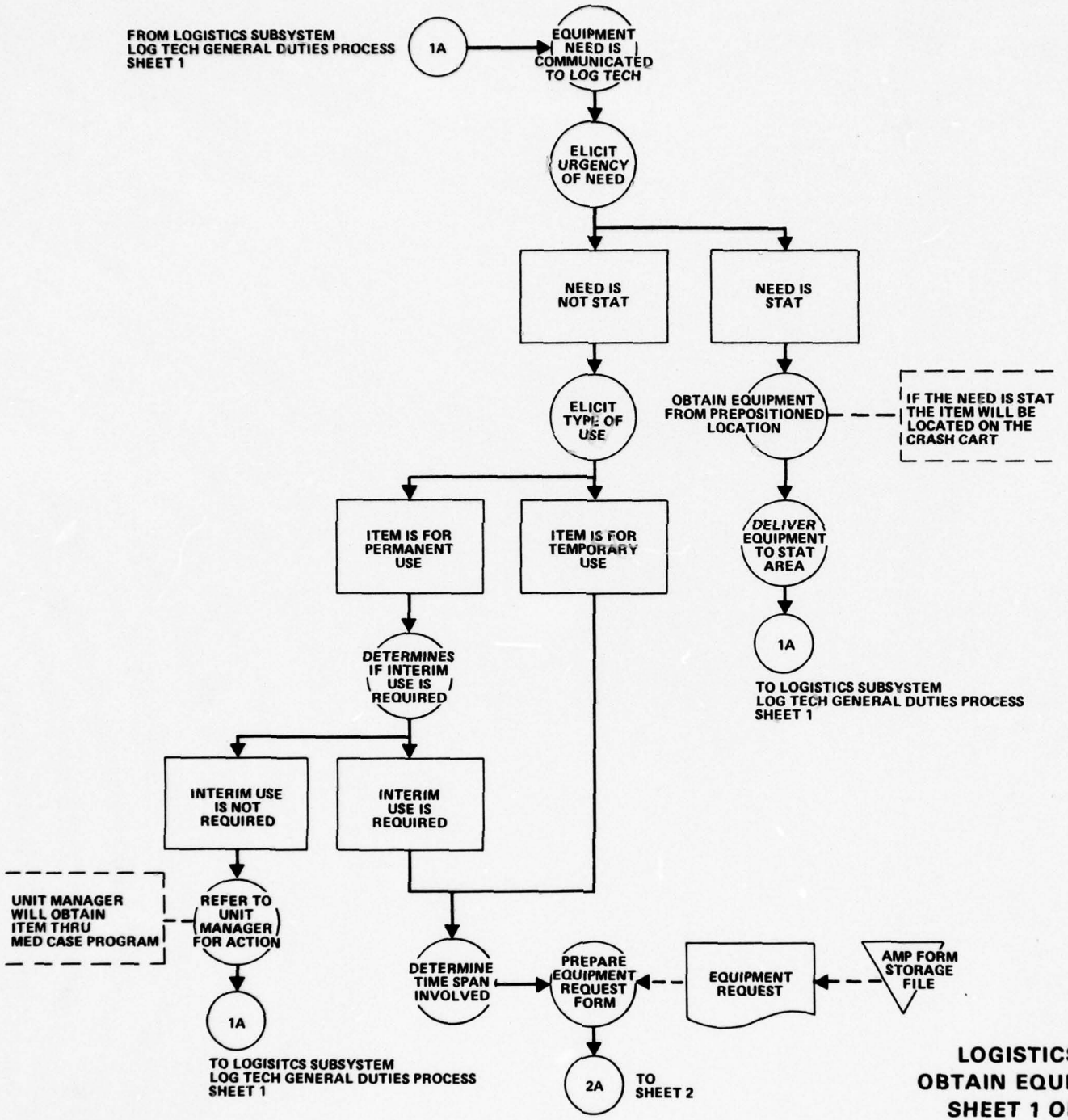
LOGISTICS SUBSYSTEM
TURN-IN SUPPLIES PROCESS
SHEET 1 OF 2 10 NOV 1975



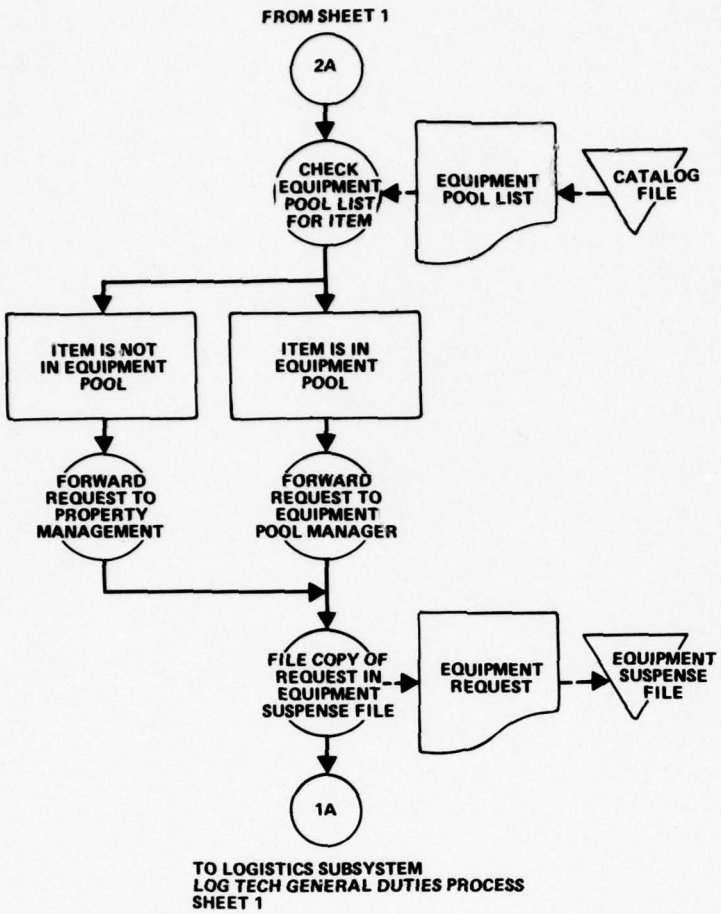
LOGISTICS SUBSYSTEM
TURN-IN SUPPLIES PROCESS
SHEET 2 OF 2 10 NOV 1975



LOGISTICS SUBSYSTEM
LOG TECH MISCELLANEOUS PROCESS
SHEET 1 OF 1 10 NOV 75

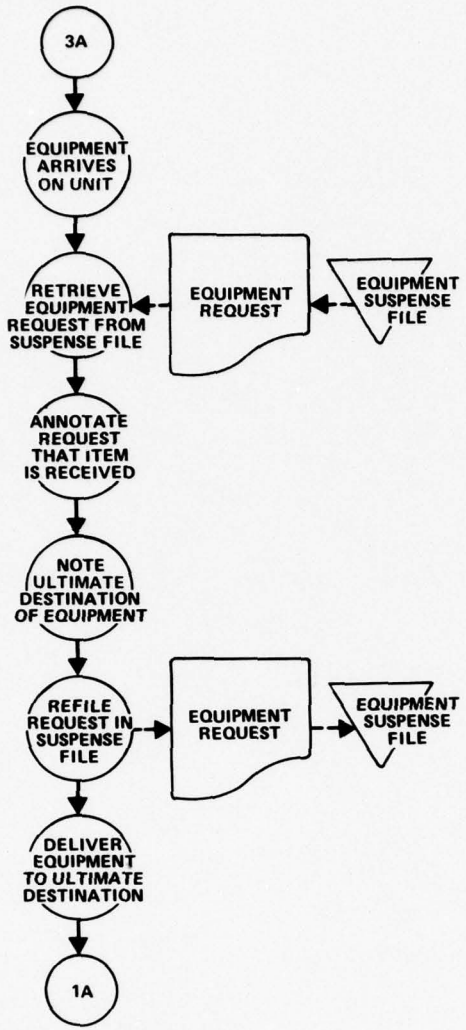


LOGISTICS SUBSYSTEM
OBTAIN EQUIPMENT PROCESS
SHEET 1 OF 3 24 DEC 75



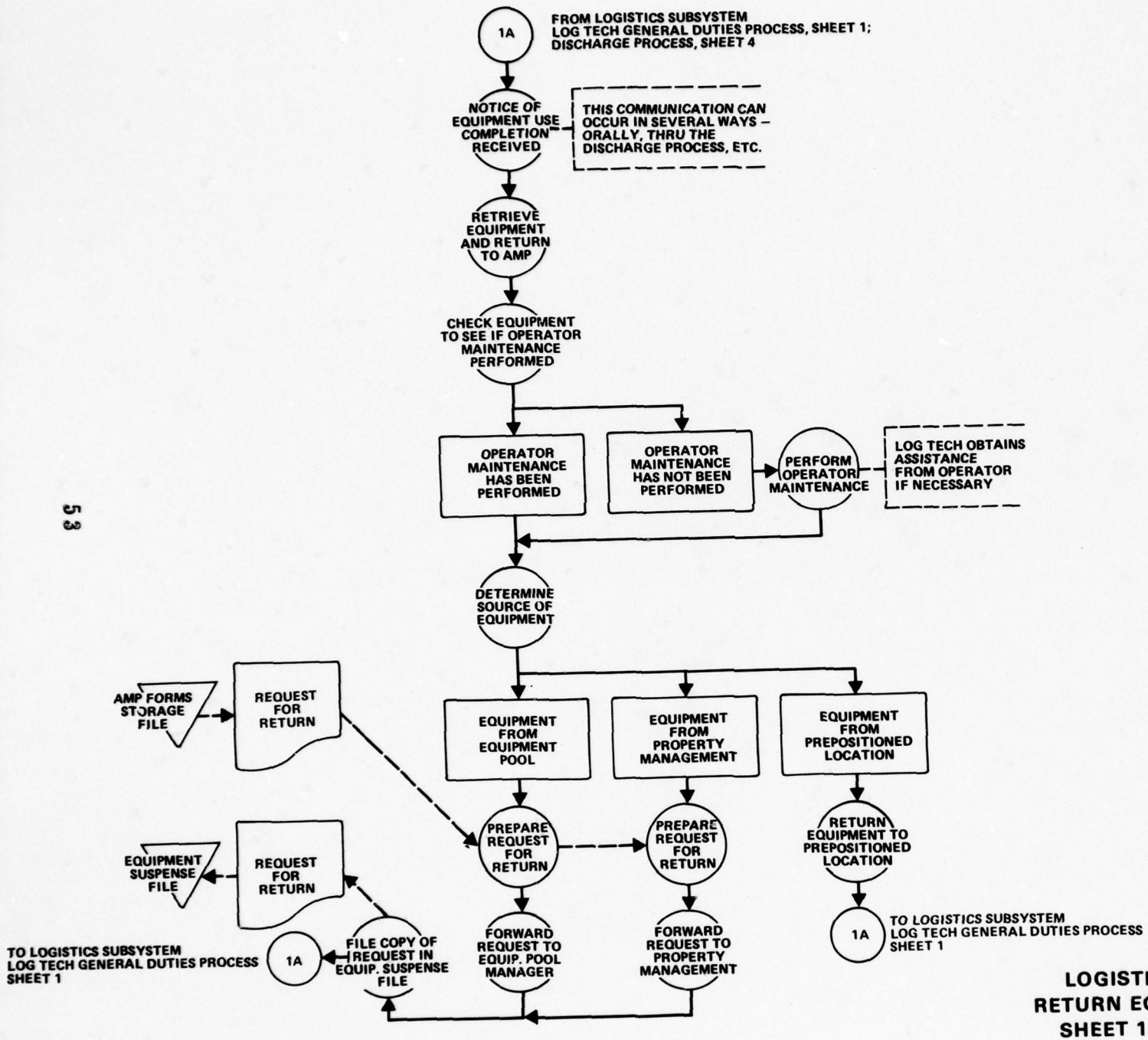
LOGISTICS SUBSYSTEM
OBTAIN EQUIPMENT PROCESS
SHEET 2 OF 3 24 DEC 75

FROM LOGISTICS SUBSYSTEM
LOG TECH GENERAL DUTIES PROCESS
SHEET 3

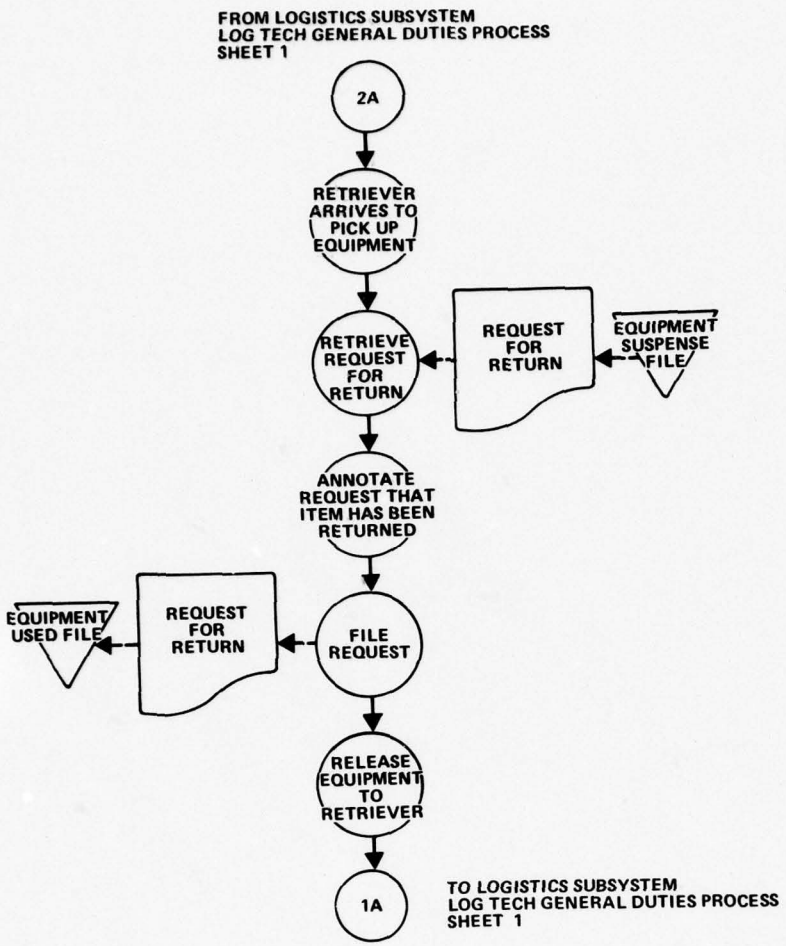


TO LOGISTICS SUBSYSTEM
LOG TECH GENERAL DUTIES PROCESS
SHEET 1

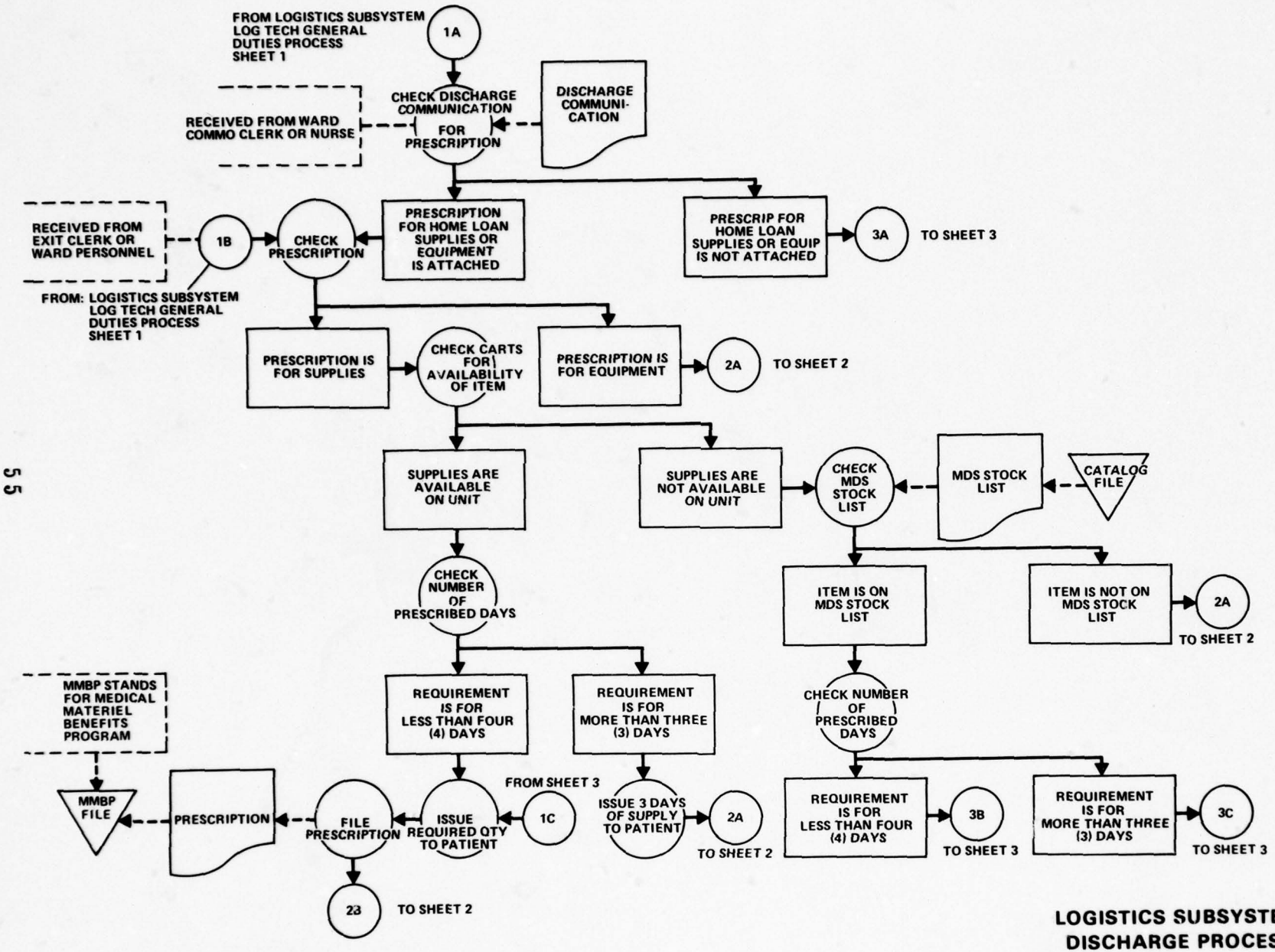
LOGISTICS SUBSYSTEM
OBTAIN EQUIPMENT PROCESS
SHEET 3 OF 3 24 DEC 75



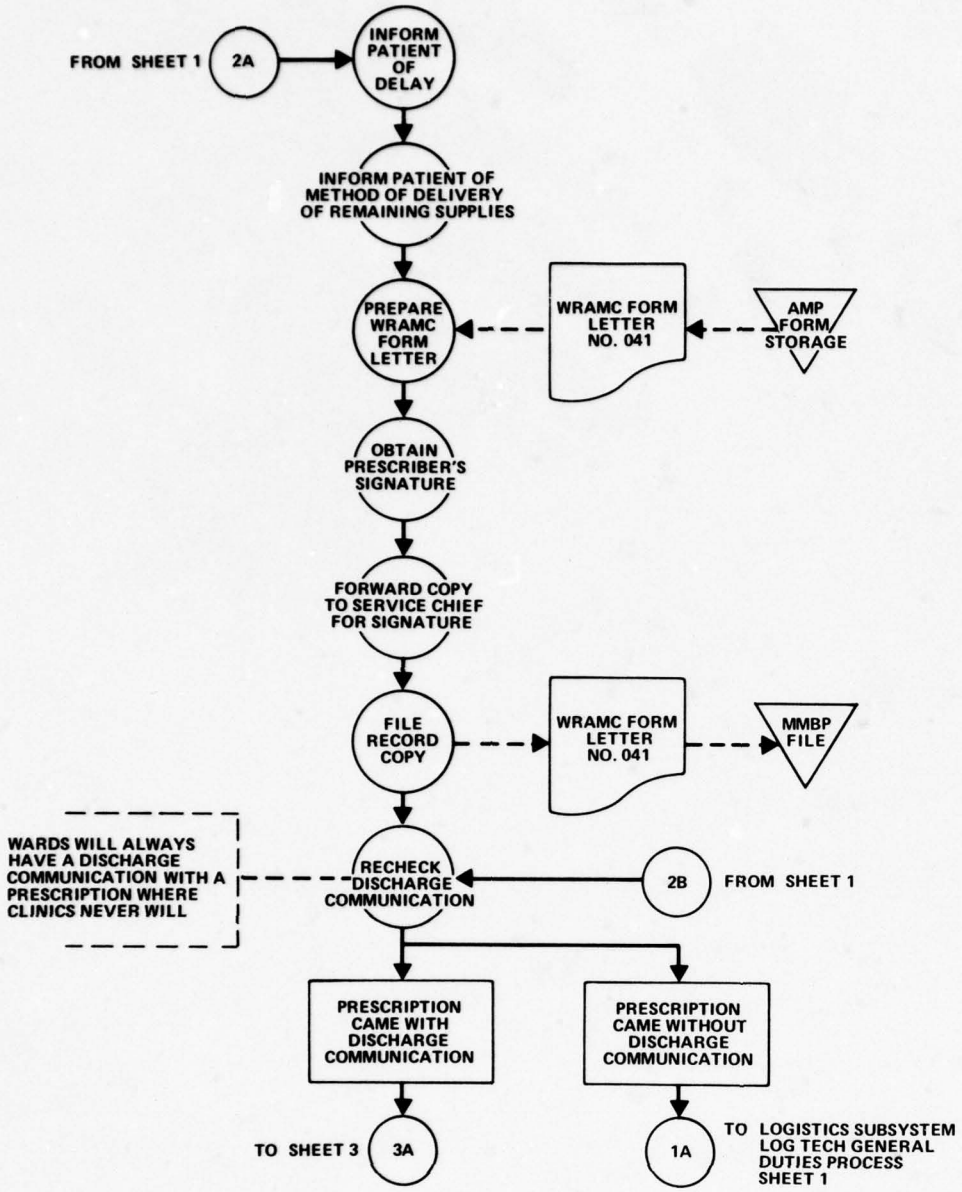
LOGISTICS SUBSYSTEM
RETURN EQUIPMENT PROCESS
SHEET 1 OF 2 24 DEC 75



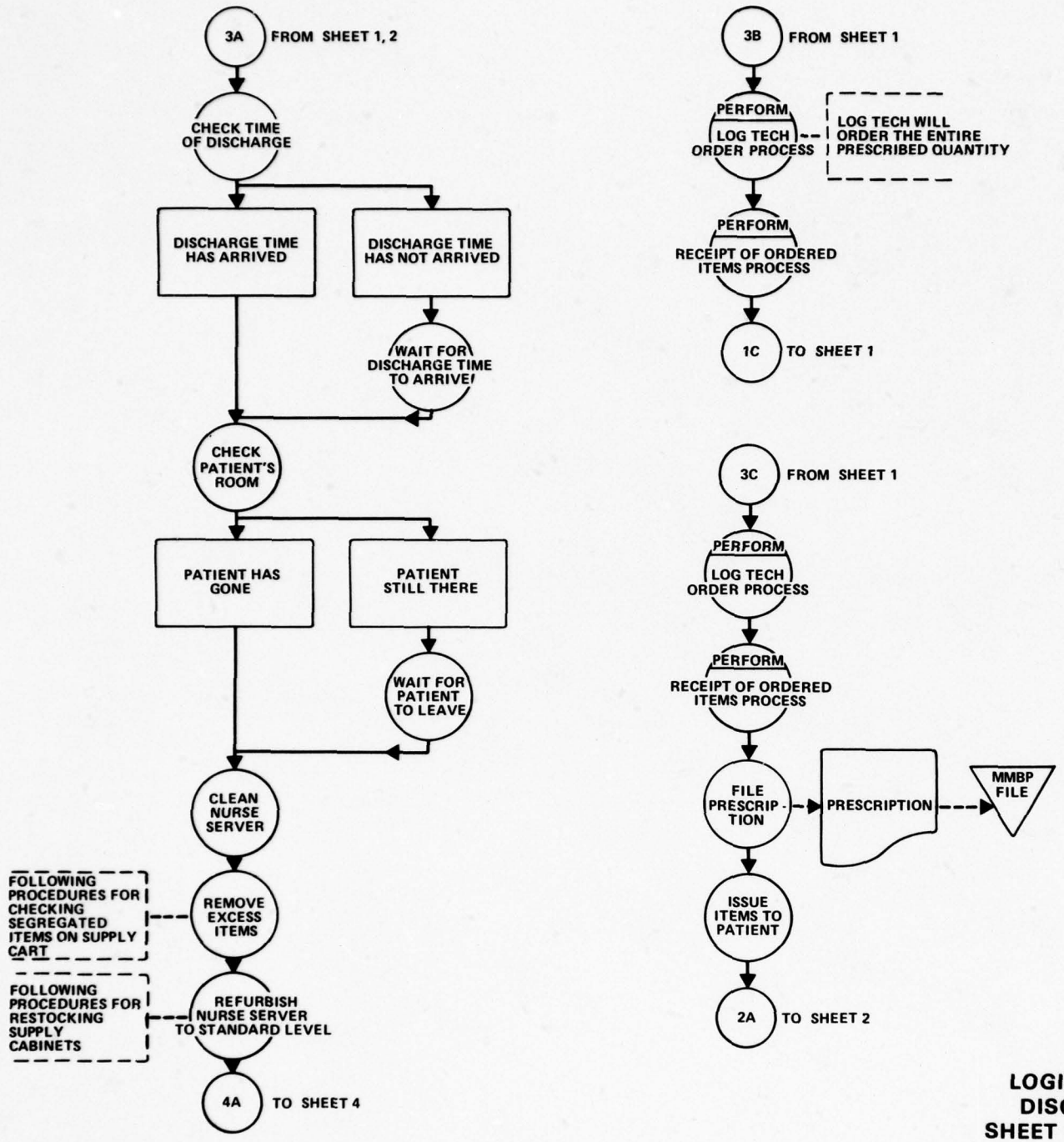
LOGISTICS SUBSYSTEM
RETURN EQUIPMENT PROCESS
SHEET 2 OF 2 24 DEC 75



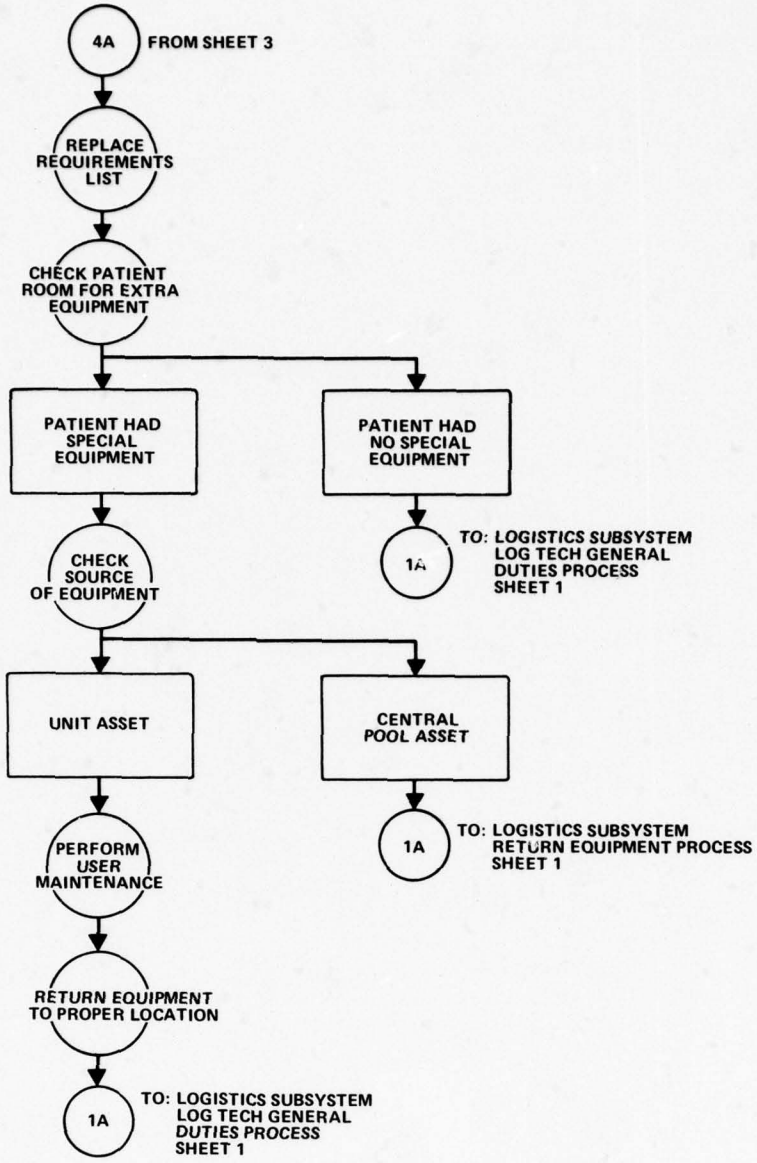
LOGISTICS SUBSYSTEM
DISCHARGE PROCESS
SHEET 1 OF 4 10 NOV 1975



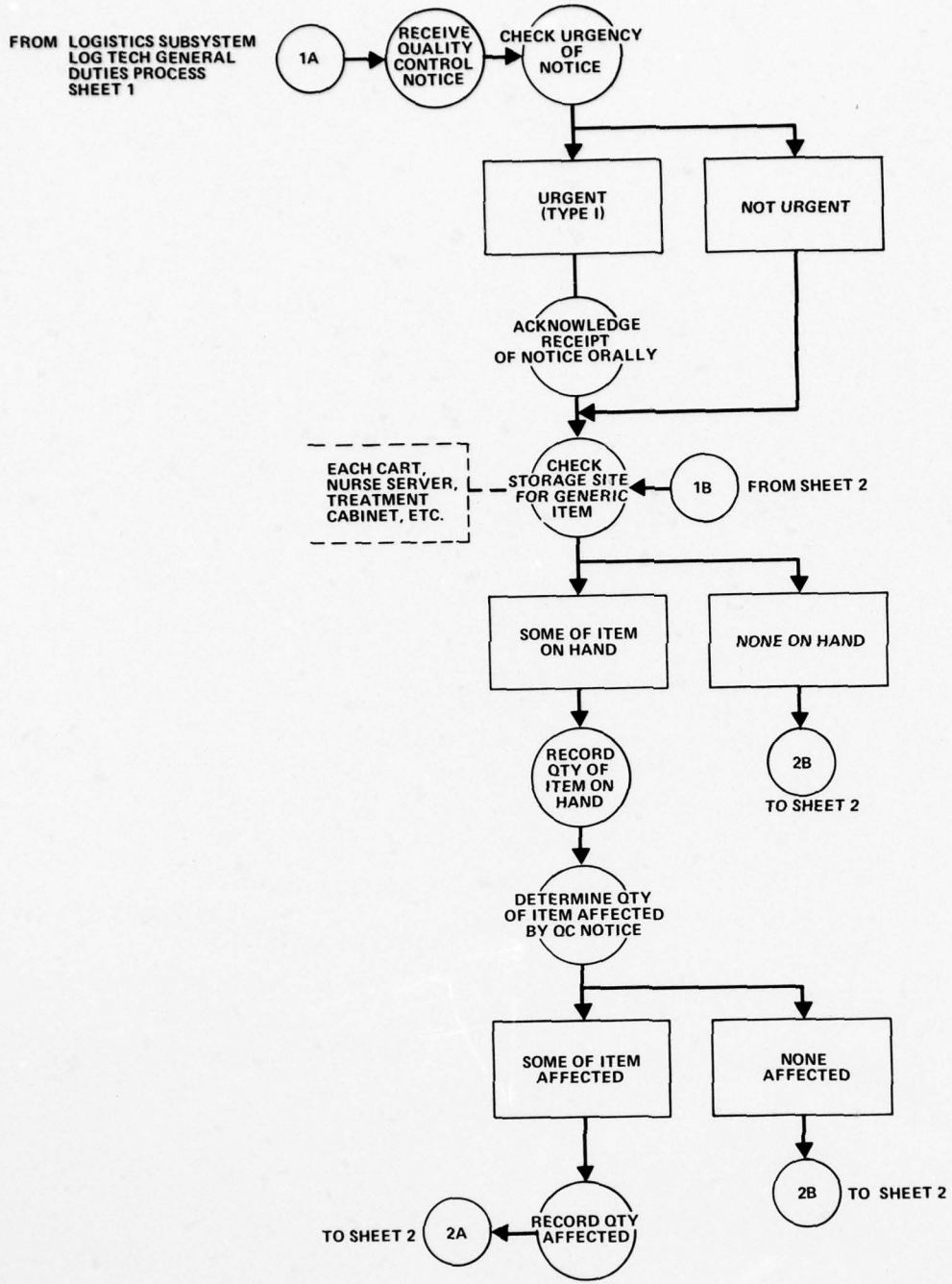
LOGISTICS SUBSYSTEM
DISCHARGE PROCESS
SHEET 2 OF 4 10 NOV 1975



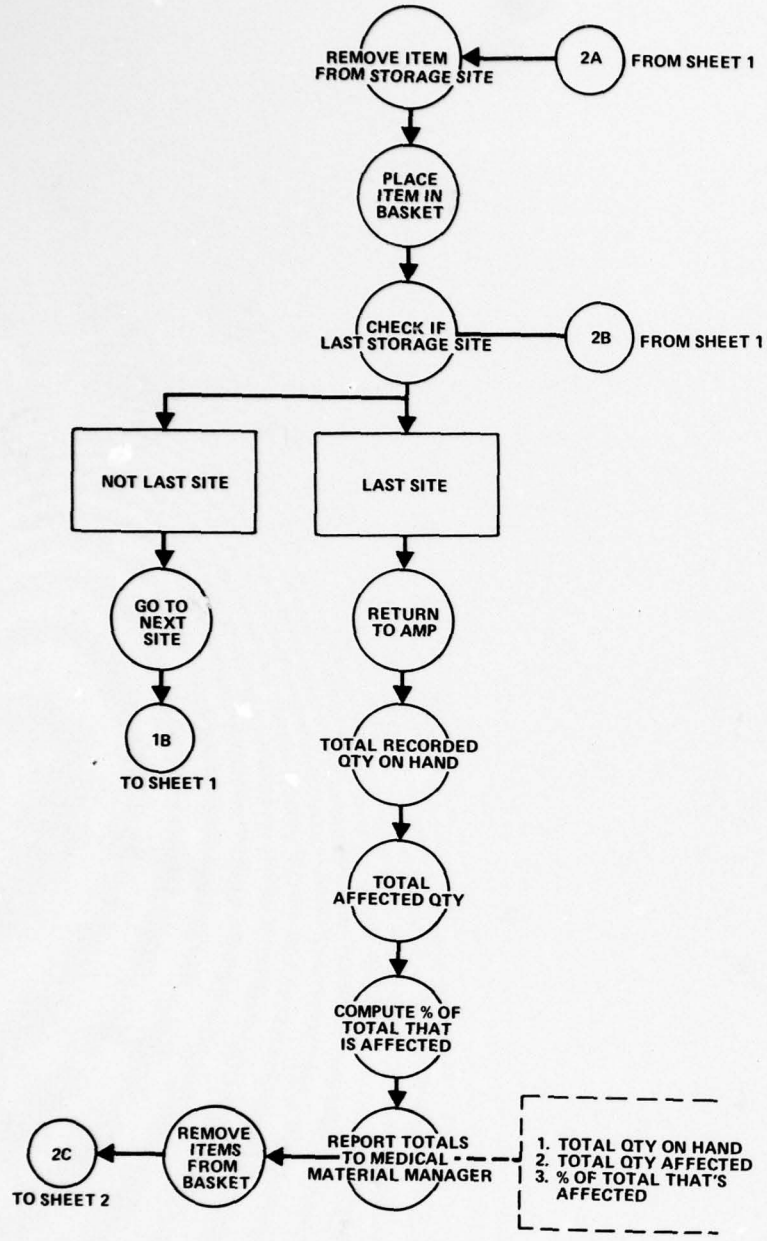
LOGISTICS SUBSYSTEM
DISCHARGE PROCESS
SHEET 3 OF 4 10 NOV 1975

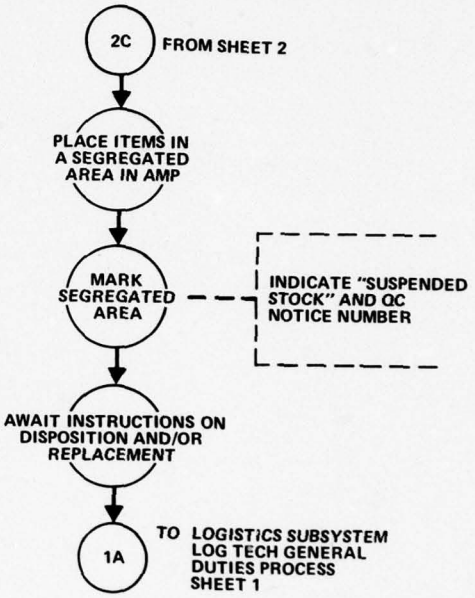


LOGISTICS SUBSYSTEM
DISCHARGE PROCESS
SHEET 4 OF 4 10 NOV 1975

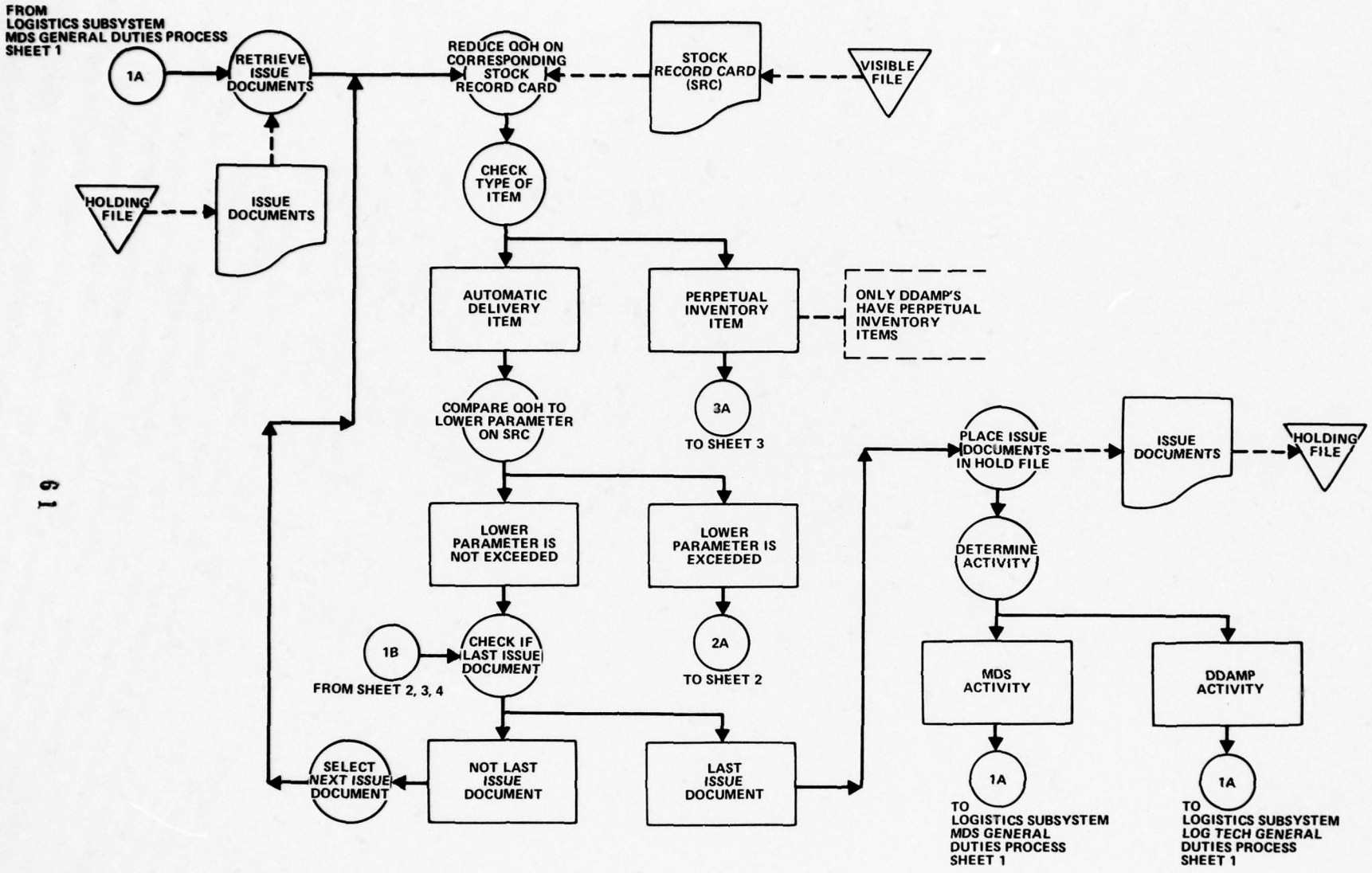


LOGISTICS SUBSYSTEM
QUALITY CONTROL PROCESS
SHEET 1 OF 2 10 NOV 1975

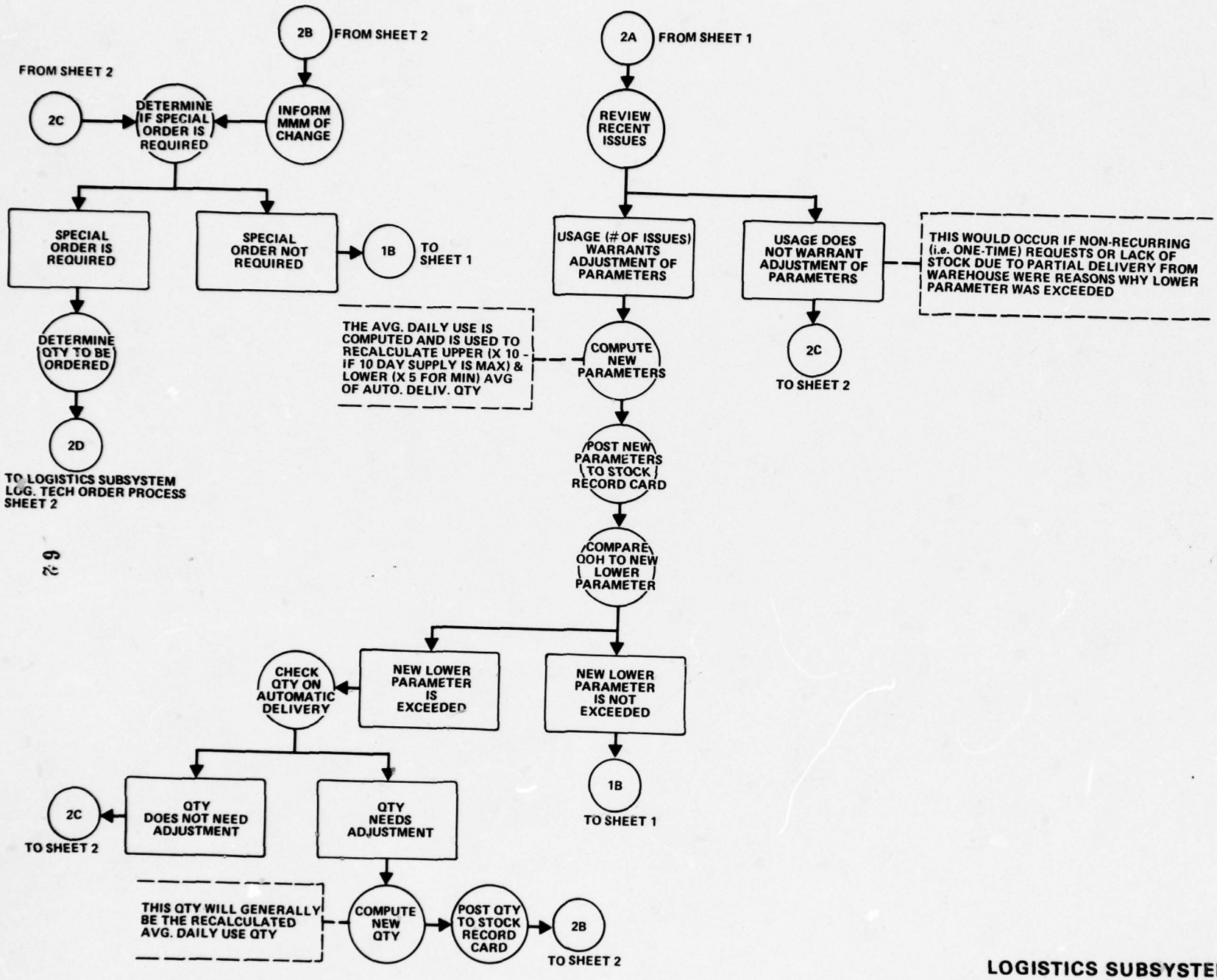




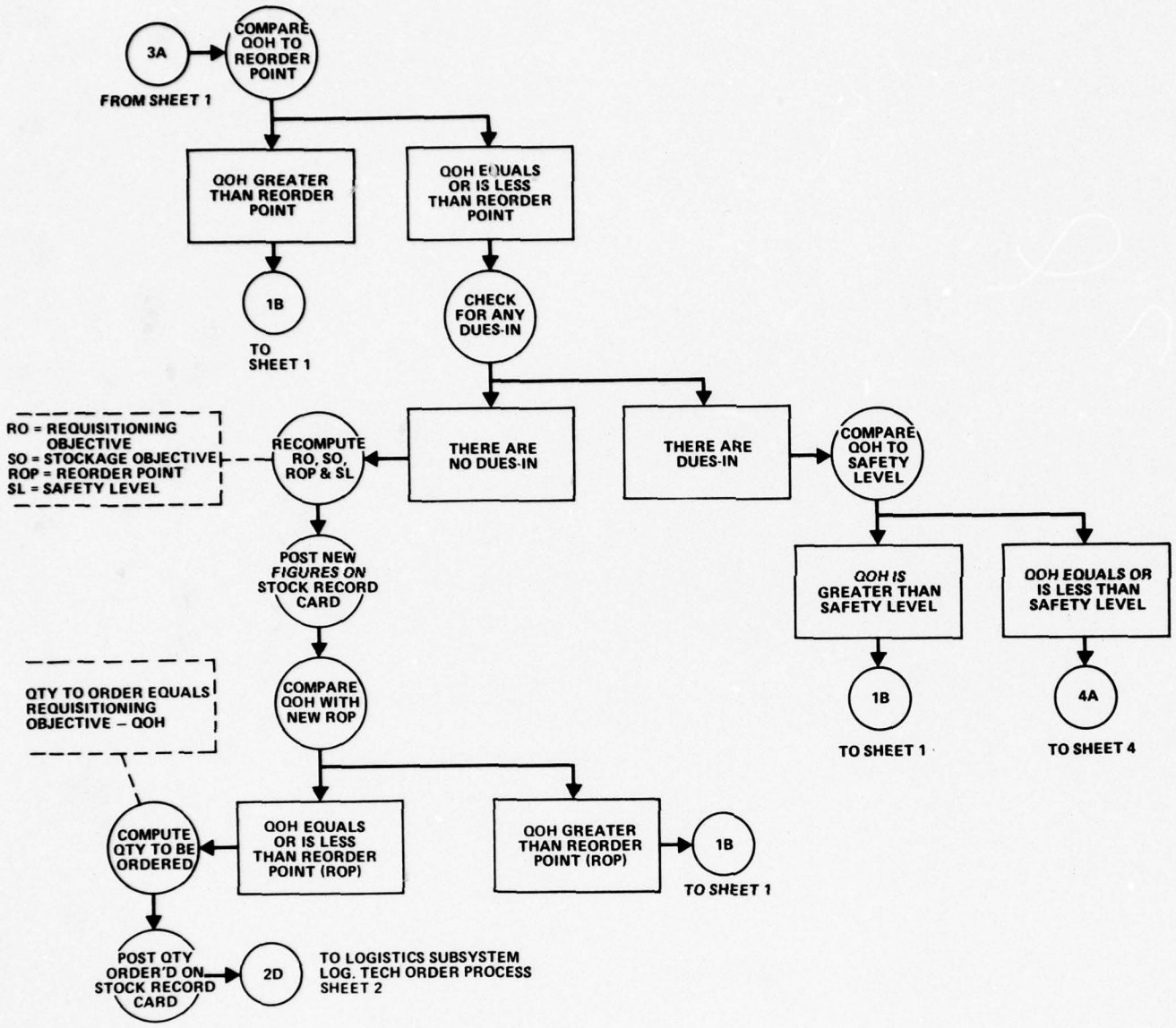
LOGISTICS SUBSYSTEM
QUALITY CONTROL PROCESS
SHEET 2 OF 2 10 NOV 1975



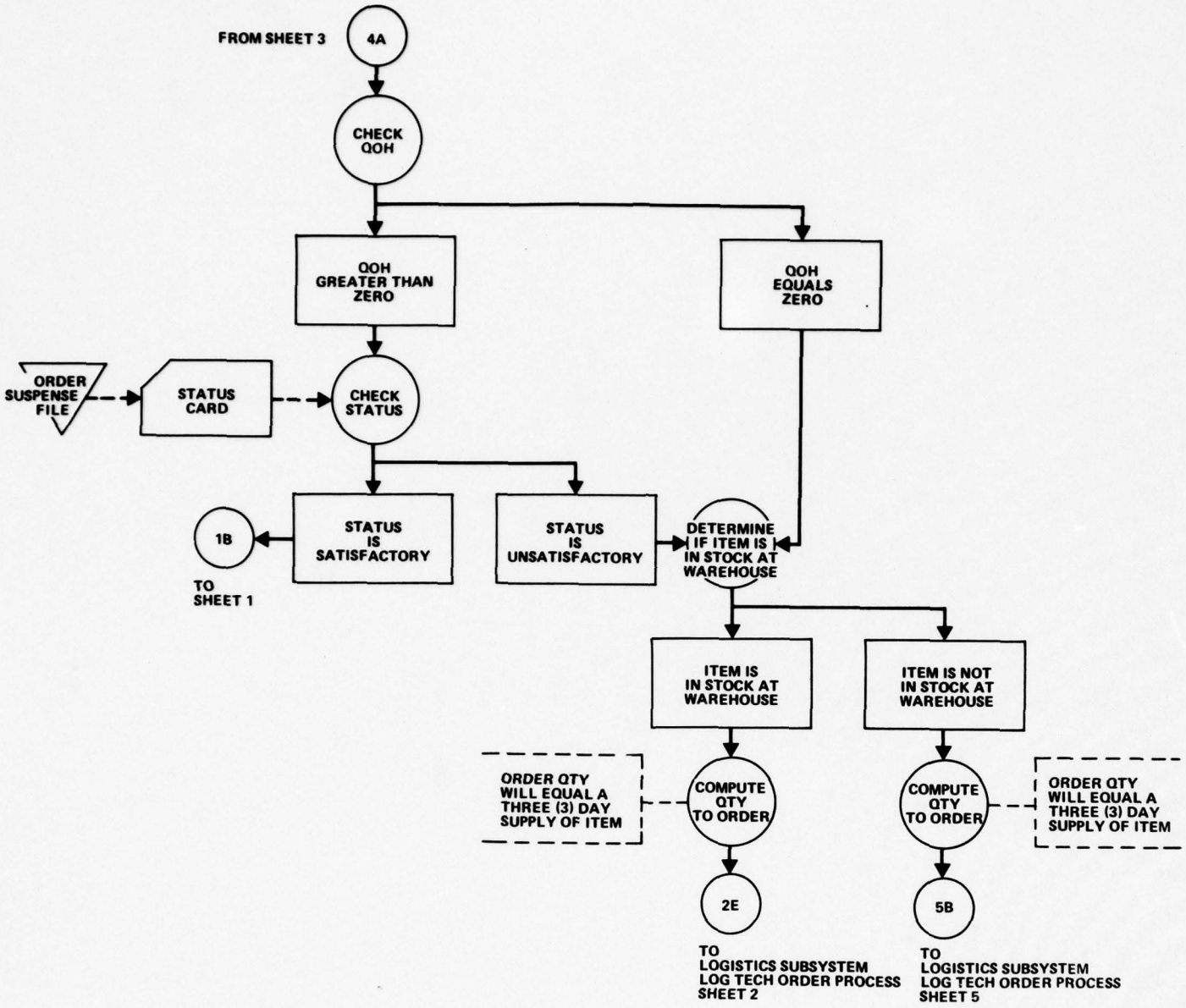
LOGISTICS SUBSYSTEM
DDAMP/MDS POSTING PROCESS
SHEET 1 OF 7 12 JAN 75



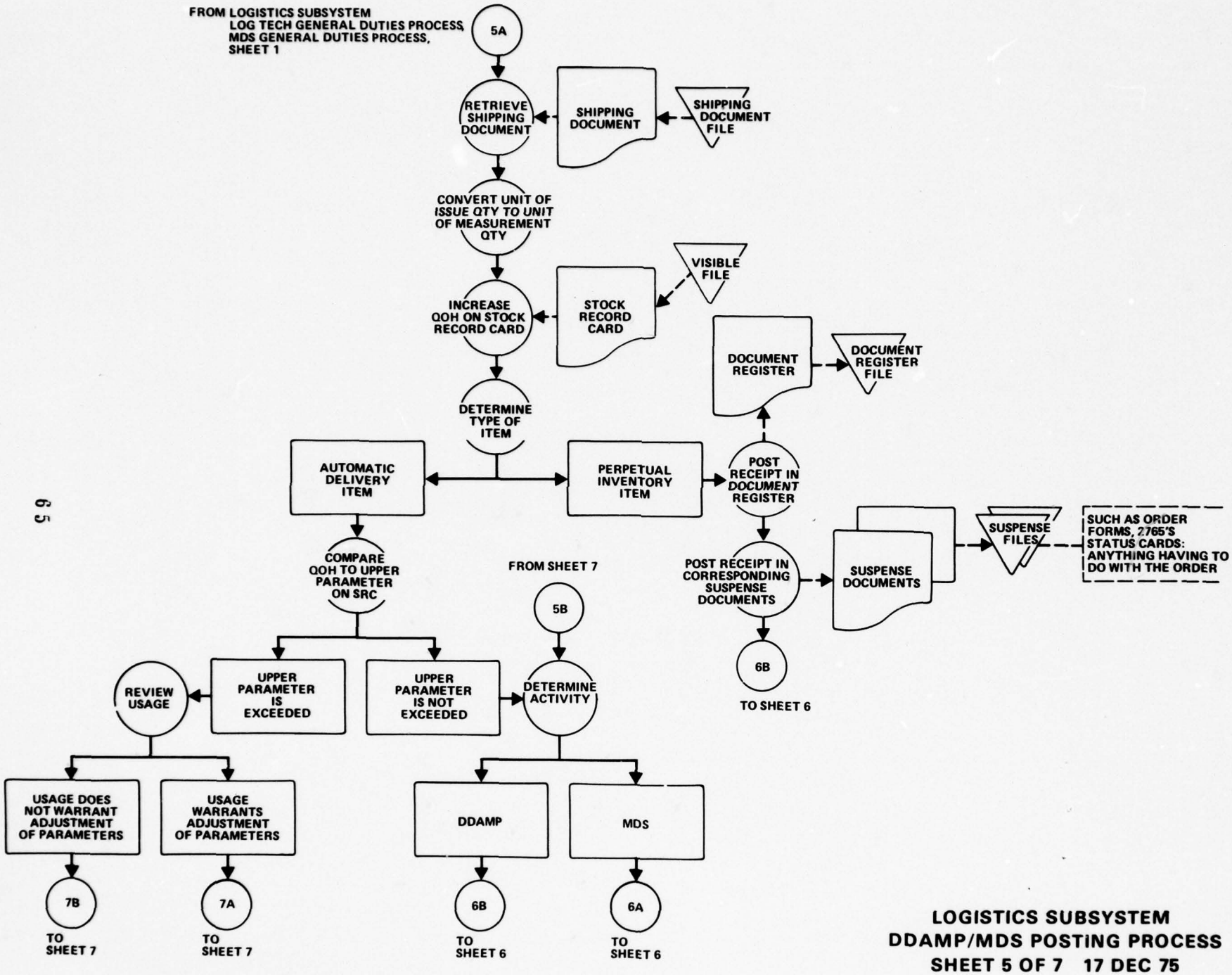
LOGISTICS SUBSYSTEM
DDAMP/MDS POSTING PROCESS
SHEET 2 OF 7 17 DEC 75



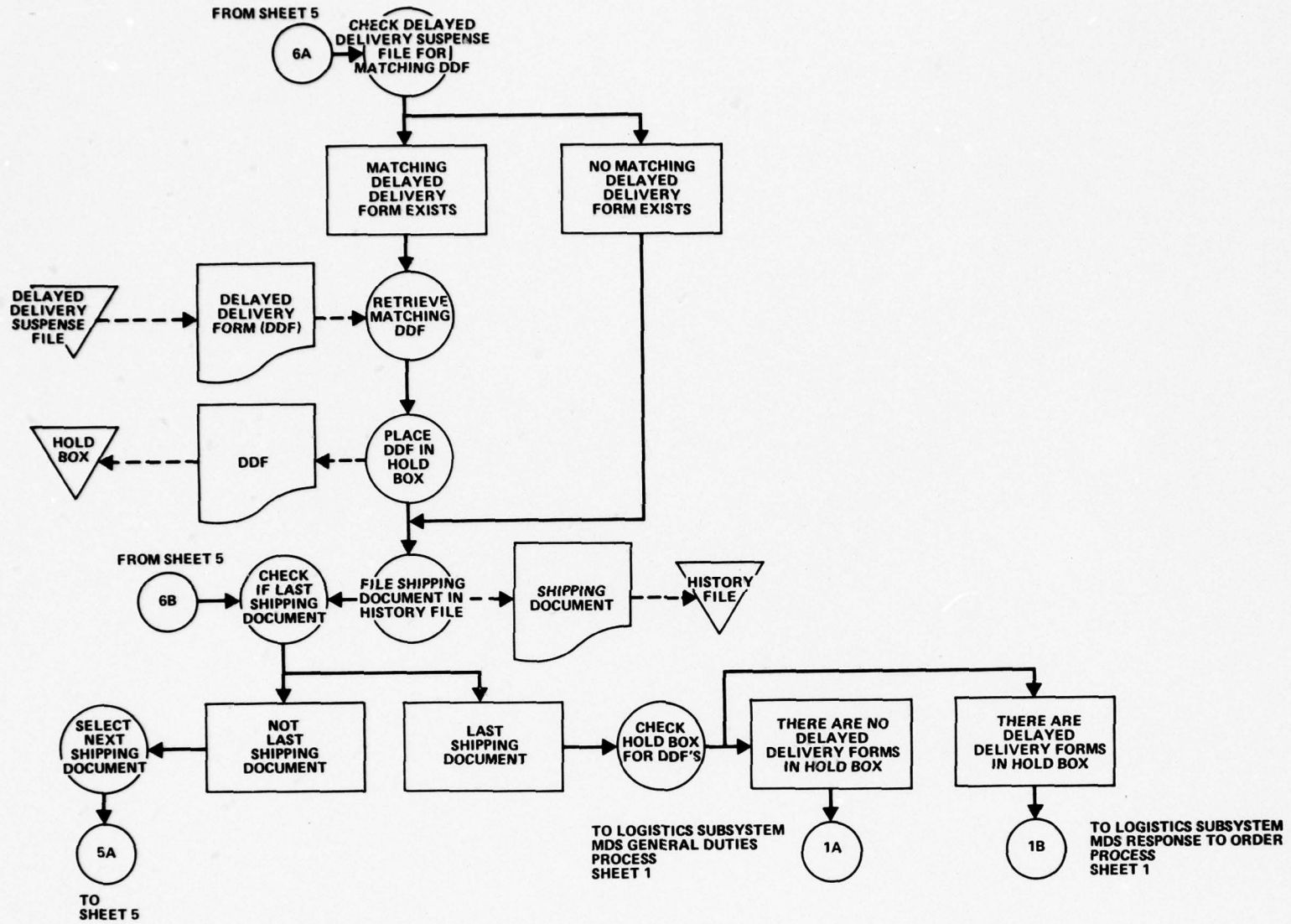
LOGISTICS SUBSYSTEM
DDAMP/MDS POSTING PROCESS
SHEET 3 OF 7 17 DEC 75



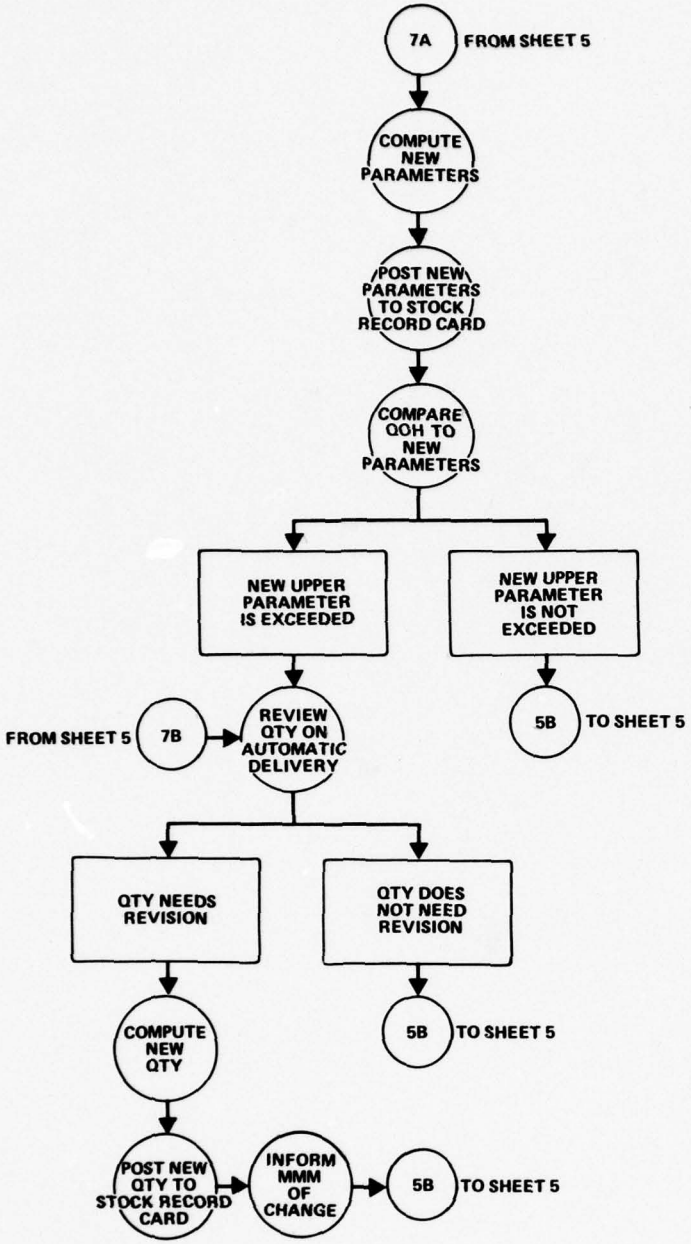
LOGISTICS SUBSYSTEM
DDAMP/MDS POSTING PROCESS
SHEET 4 OF 7 17 DEC 75



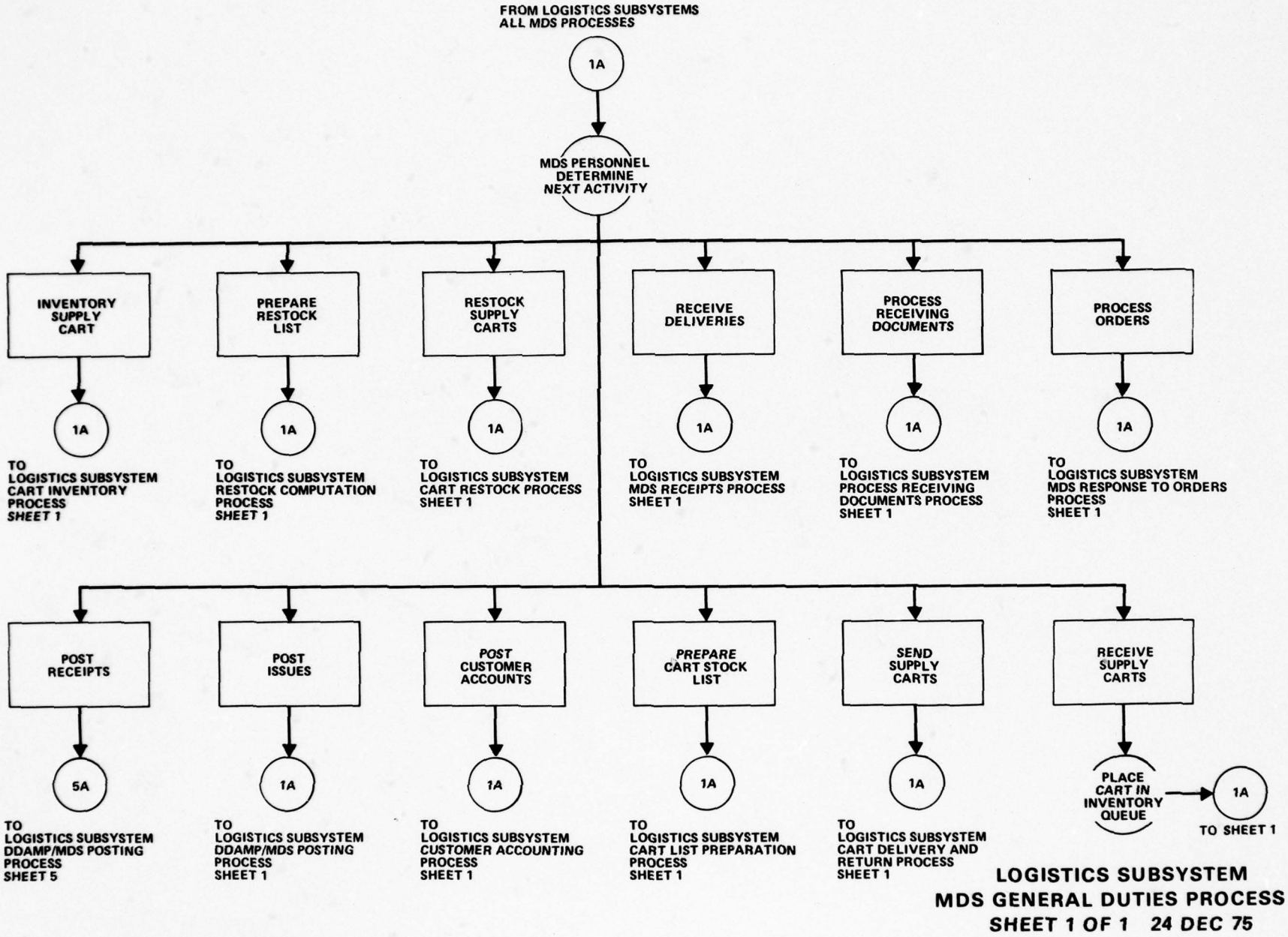
LOGISTICS SUBSYSTEM
DDAMP/MDS POSTING PROCESS
SHEET 5 OF 7 17 DEC 75



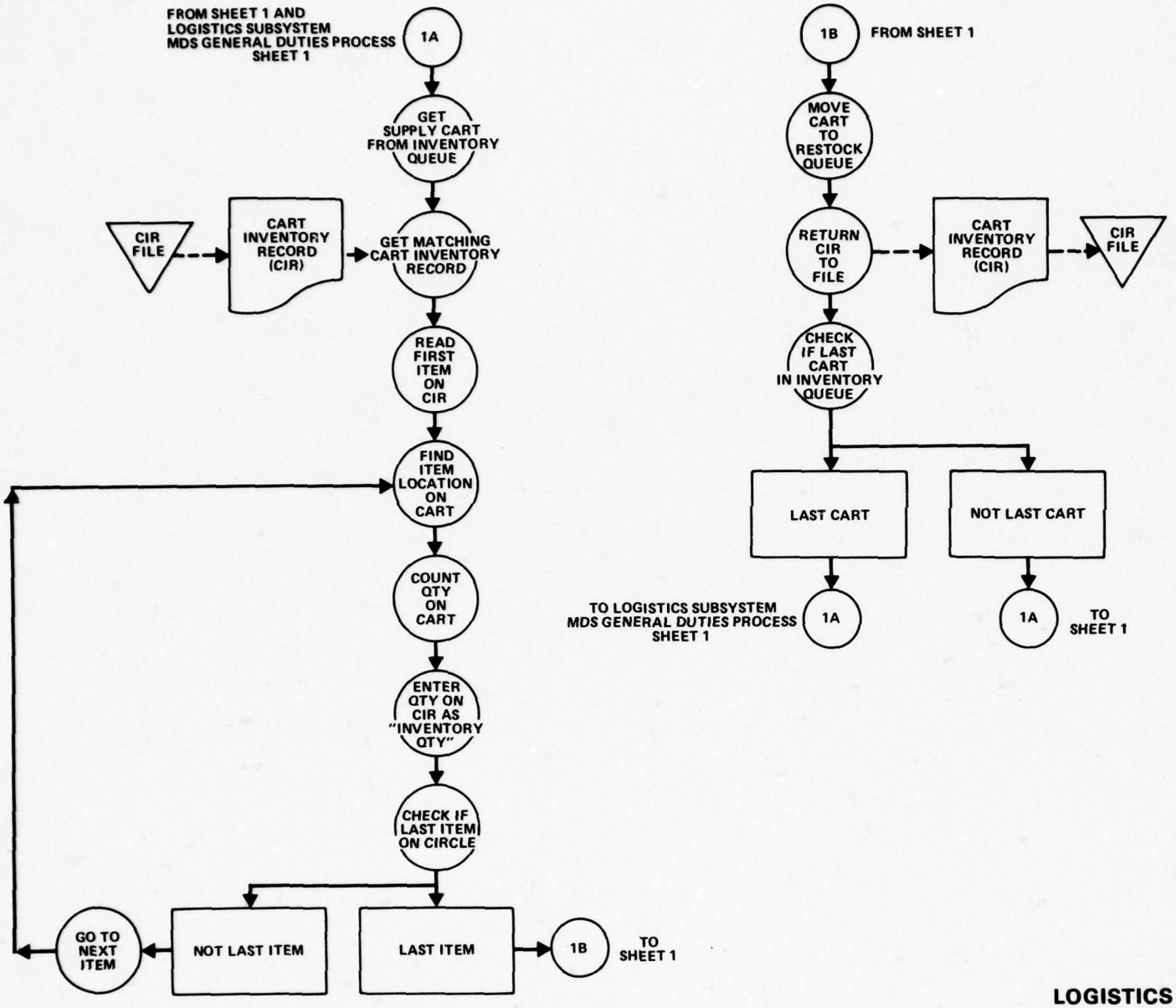
LOGISTICS SUBSYSTEM
DDAMP/MDS POSTING PROCESS
SHEET 6 OF 7 17 DEC 75



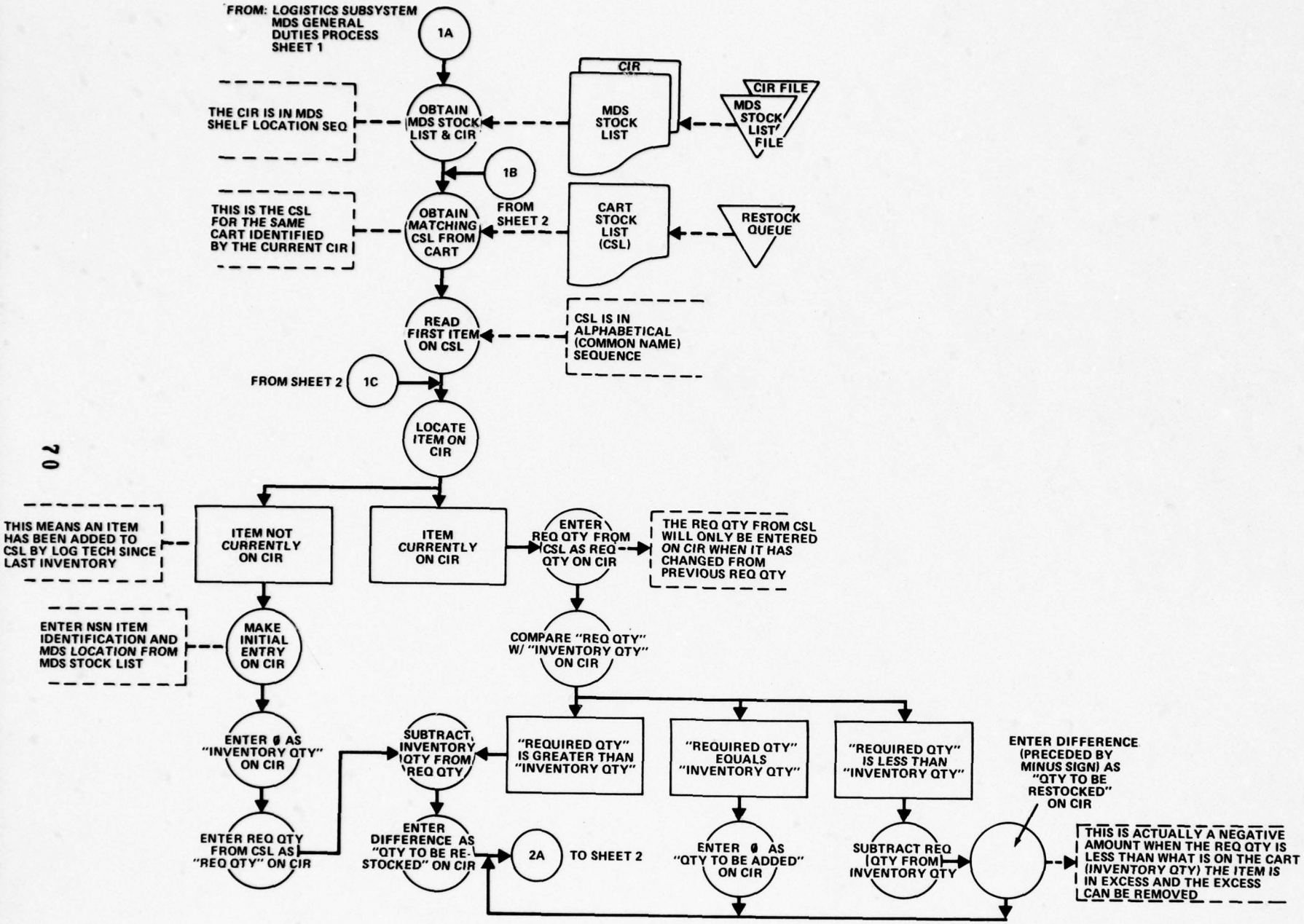
LOGISTICS SUBSYSTEM
DDAMP/MDS POSTING PROCESS
SHEET 7 OF 7 17 DEC 75



LOGISTICS SUBSYSTEM
MDS GENERAL DUTIES PROCESS
SHEET 1 OF 1 24 DEC 75

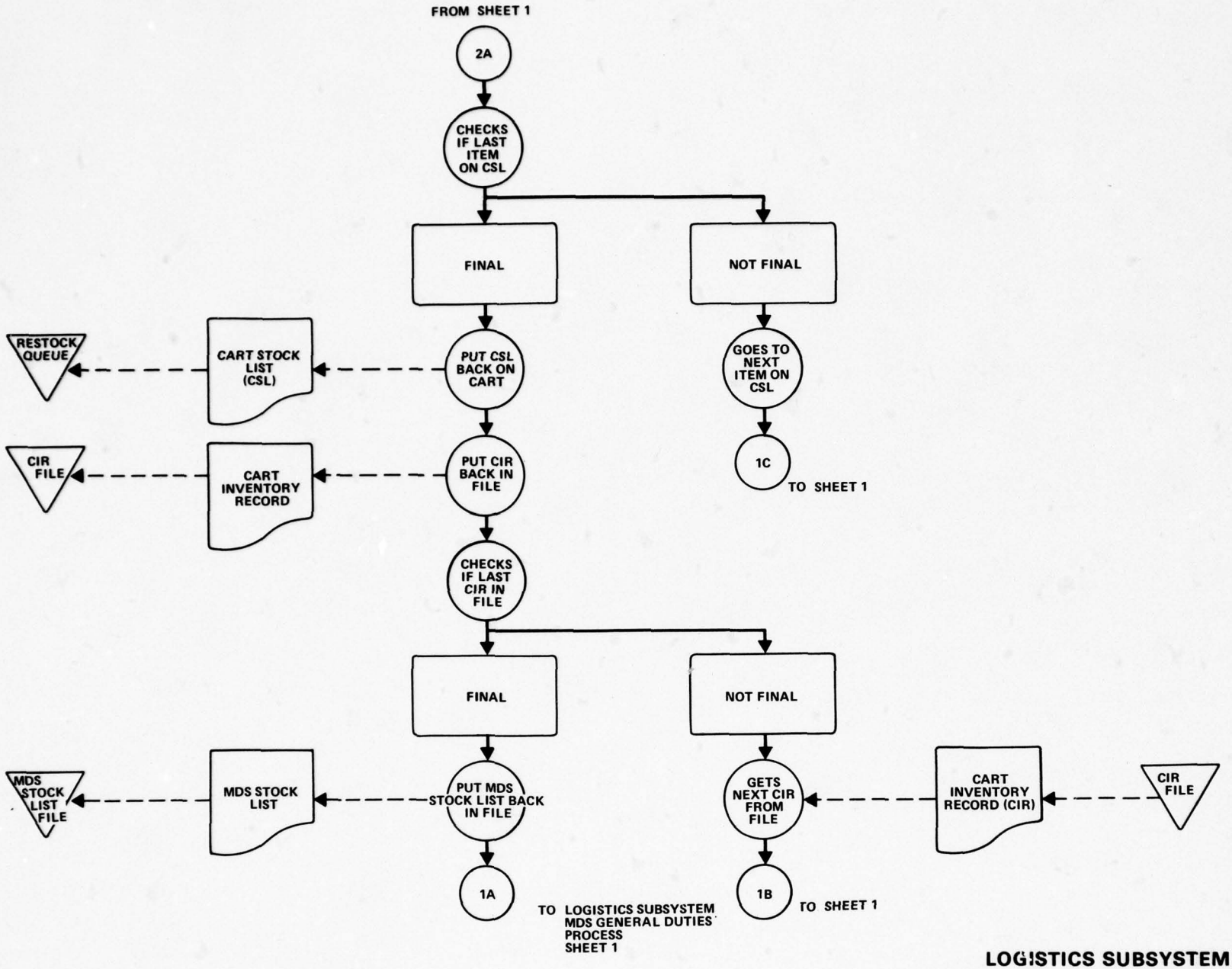


LOGISTICS SUBSYSTEM
CART INVENTORY PROCESS
SHEET 1 OF 1 17 DEC 1975

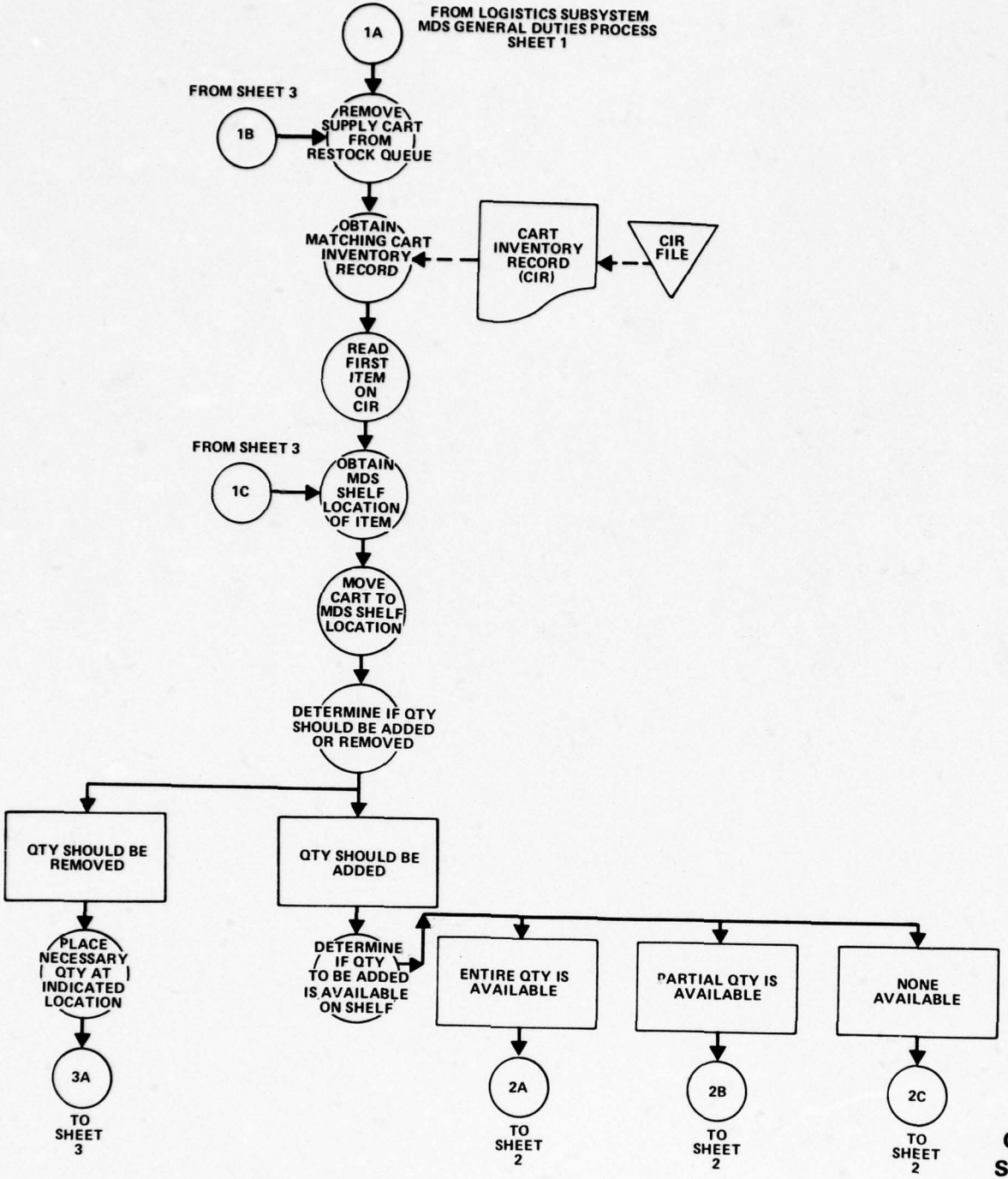


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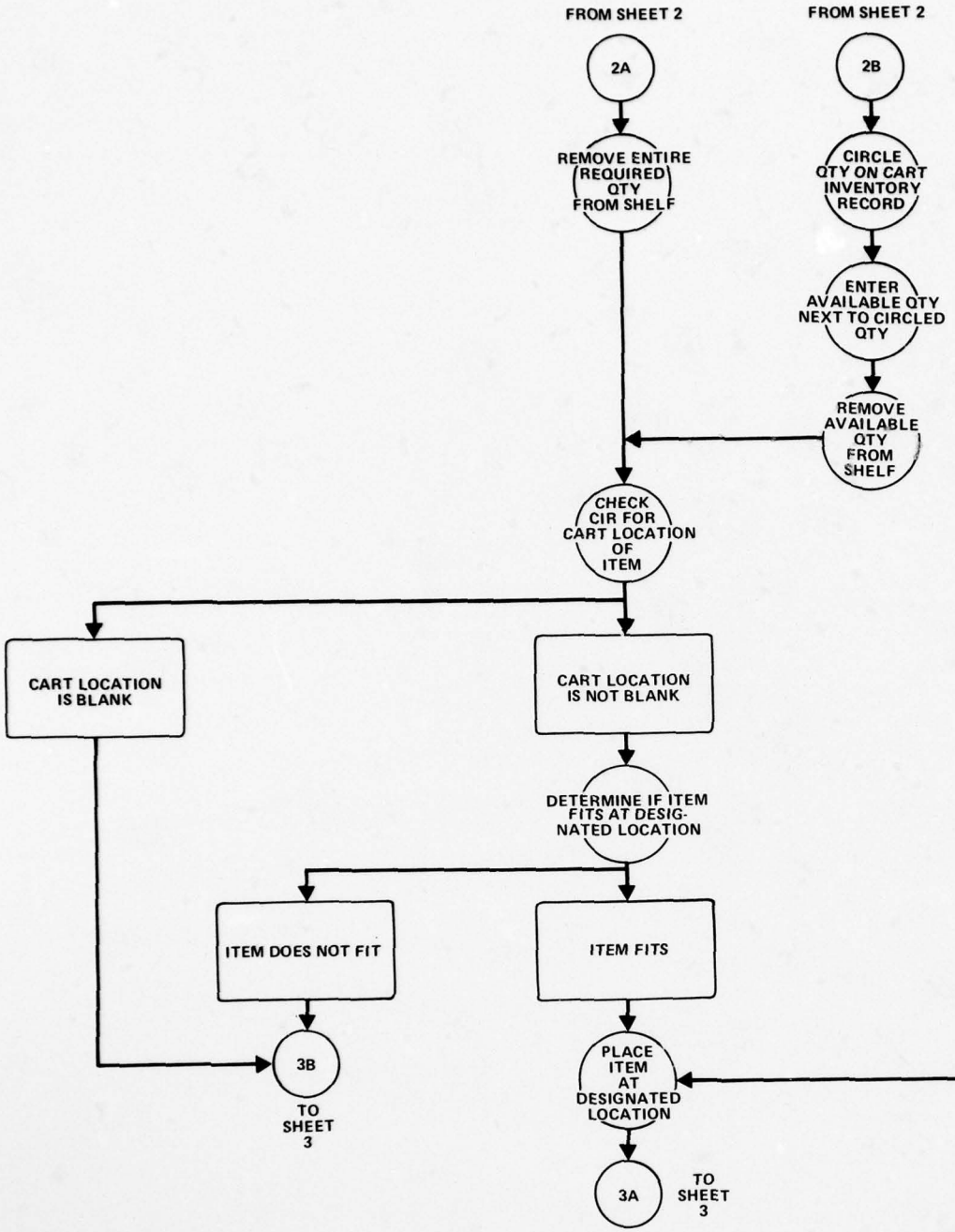
LOGISTICS SUBSYSTEM
RESTOCK COMPUTATION PROCESS
SHEET 1 OF 2 30 NOV 1975



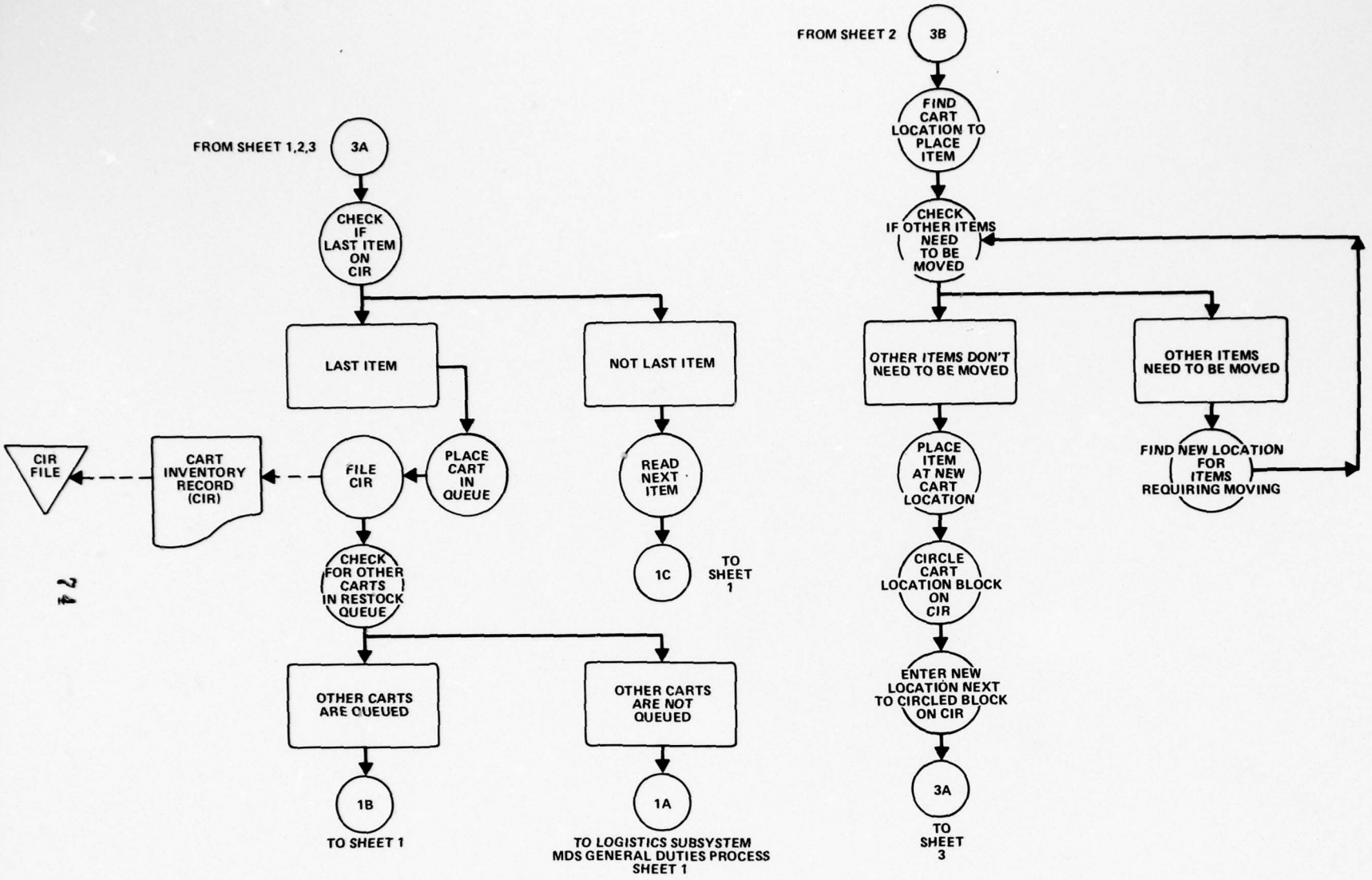
LOGISTICS SUBSYSTEM
RESTOCK COMPUTATION PROCESS
SHEET 2 OF 2 30 NOV 1975



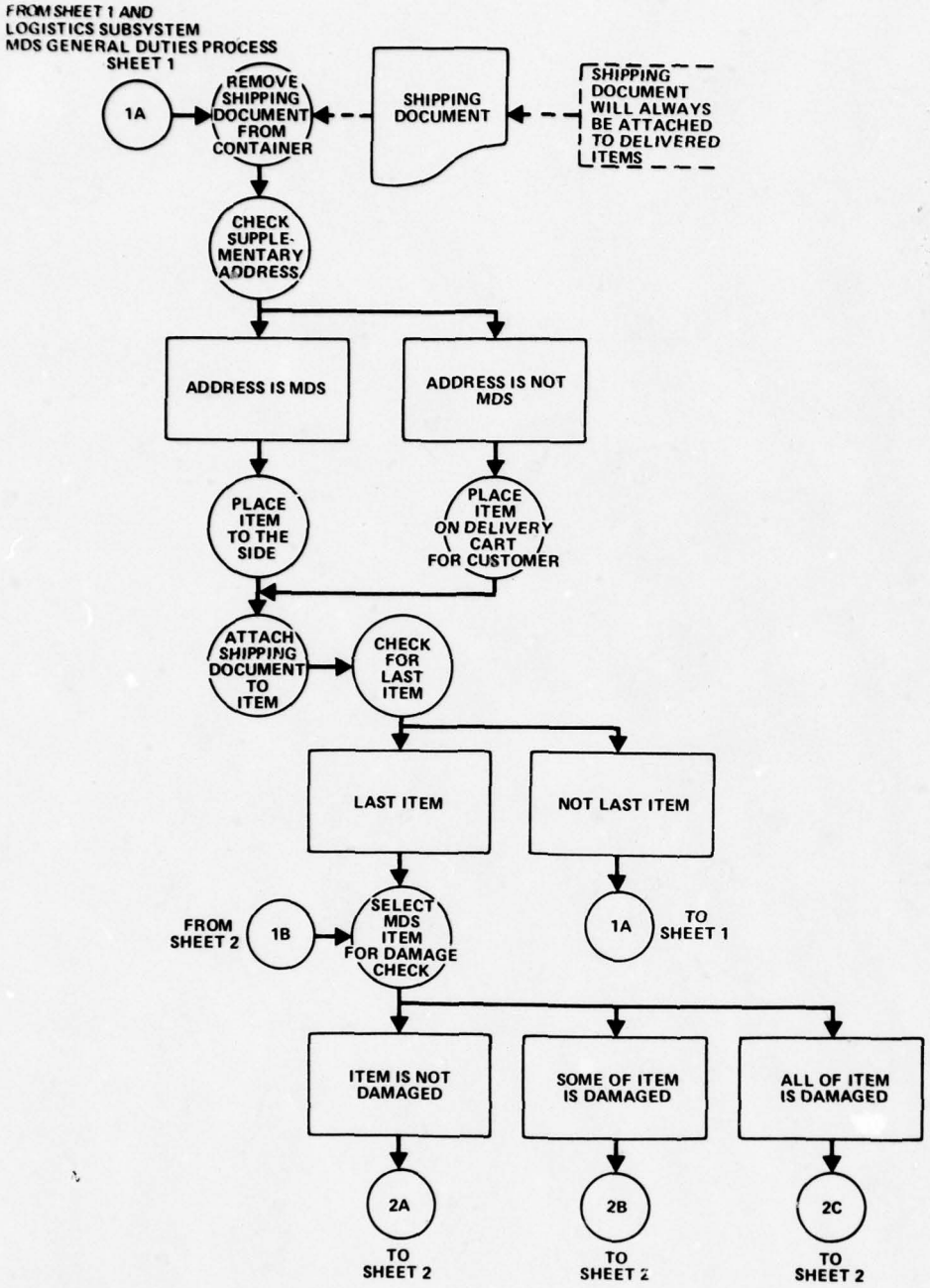
LOGISTICS SUBSYSTEM
CART RESTOCK PROCESS
SHEET 1 OF 3 17 DEC 1975



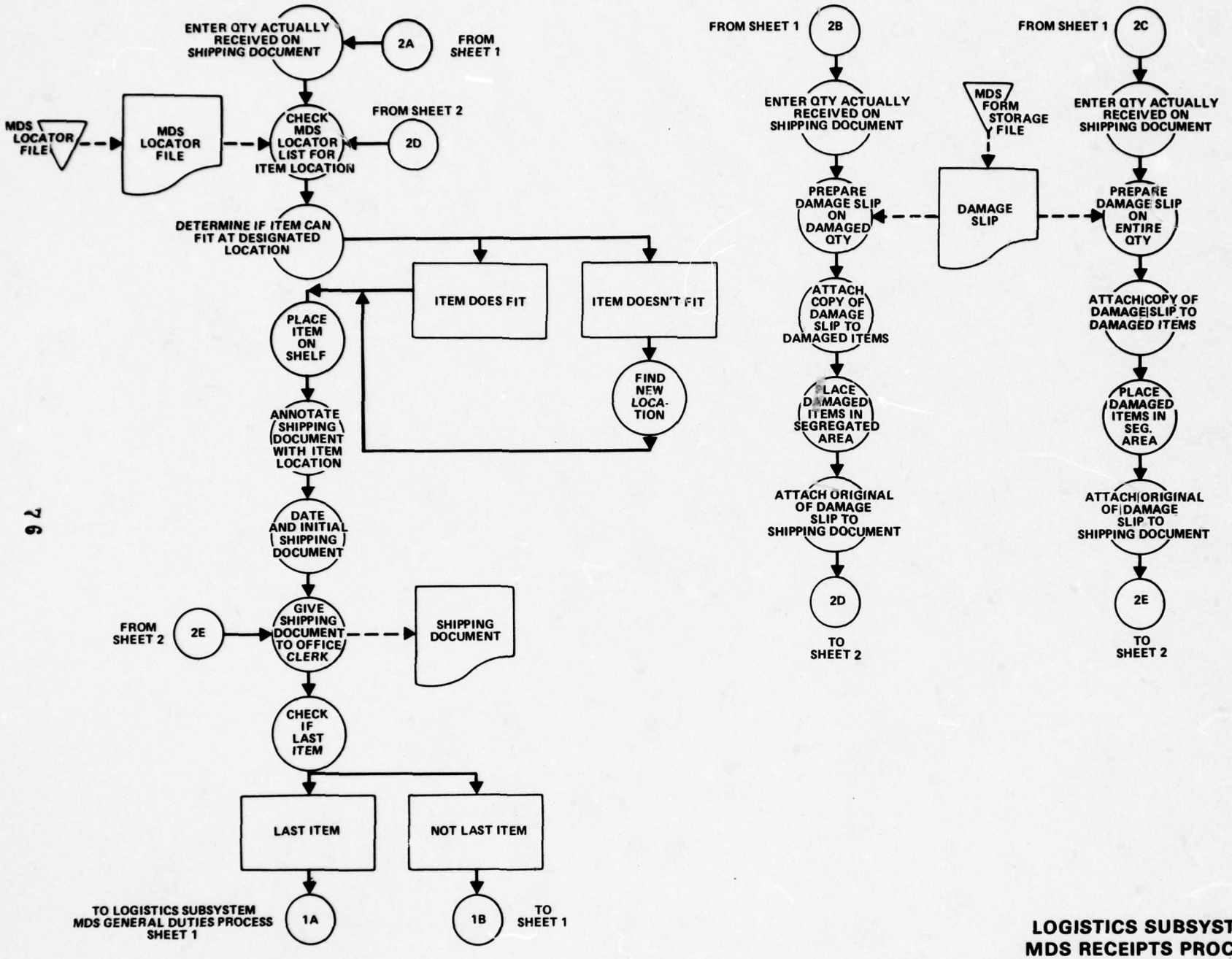
LOGISTICS SUBSYSTEM
CART RESTOCK PROCESS
SHEET 2 OF 3 17 DEC 1975



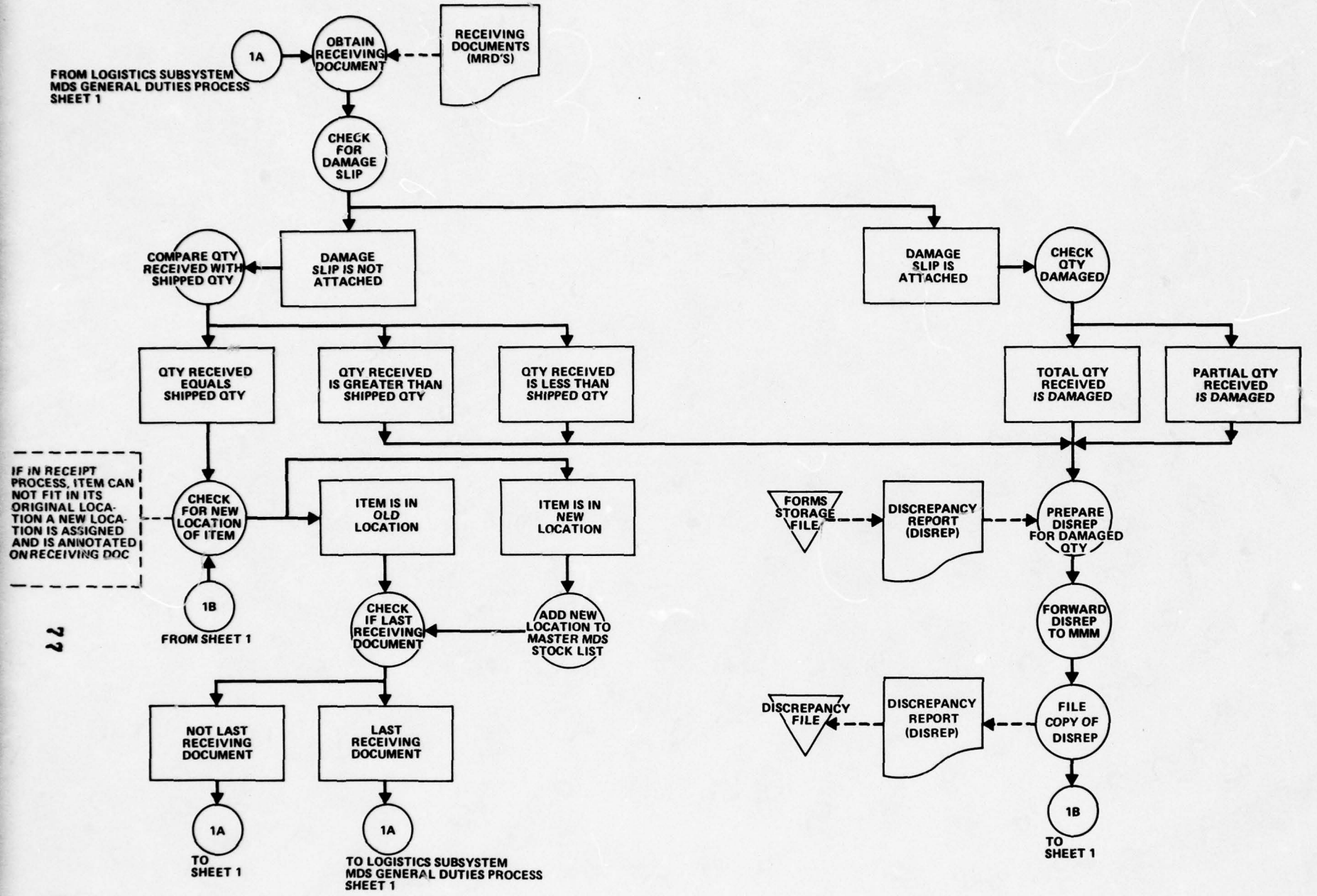
LOGISTICS SUBSYSTEM
CART RESTOCK PROCESS
SHEET 3 OF 3 17 DEC 1975



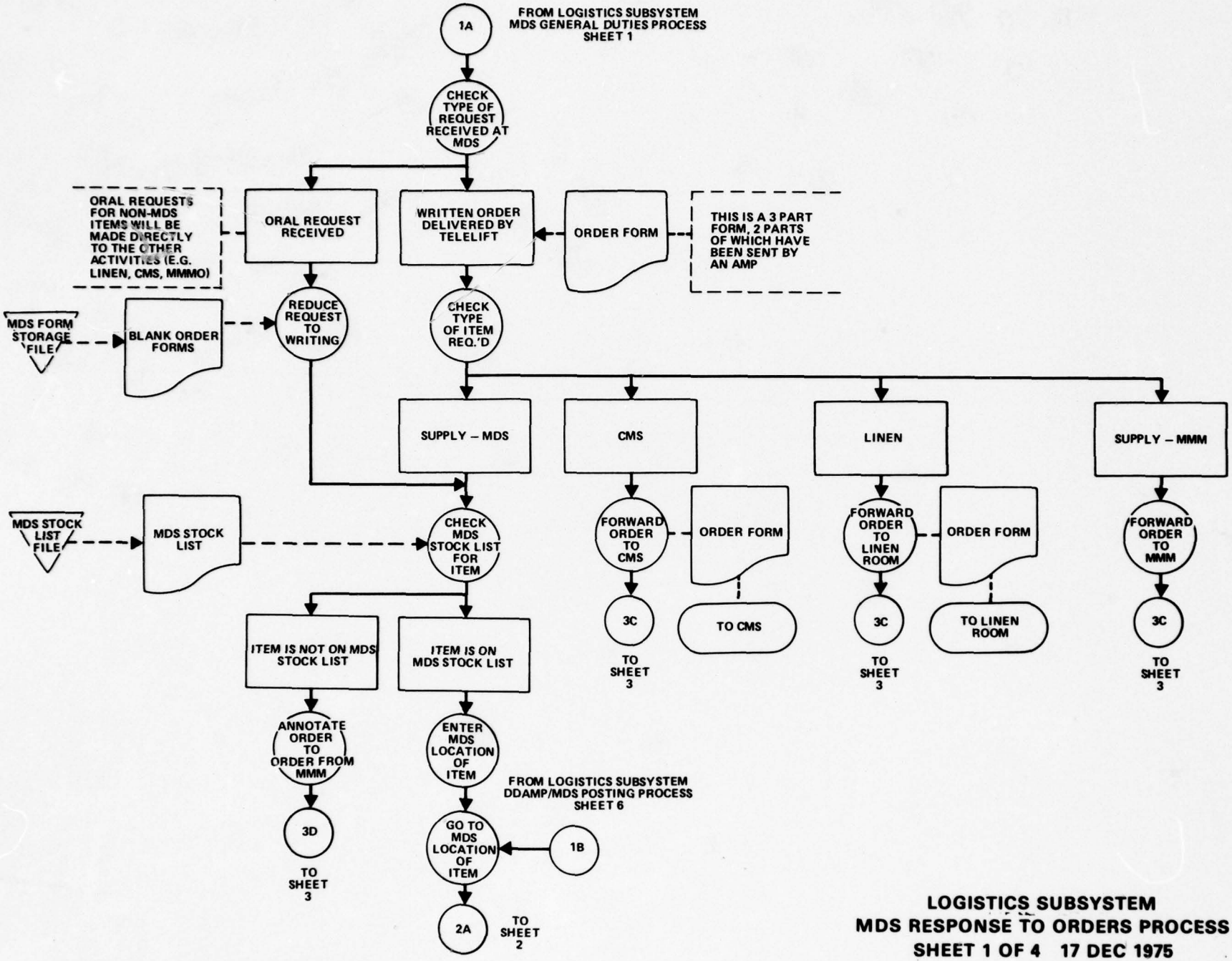
LOGISTICS SUBSYSTEM
MDS RECEIPTS PROCESS
SHEET 1 OF 2 17 DEC 1975



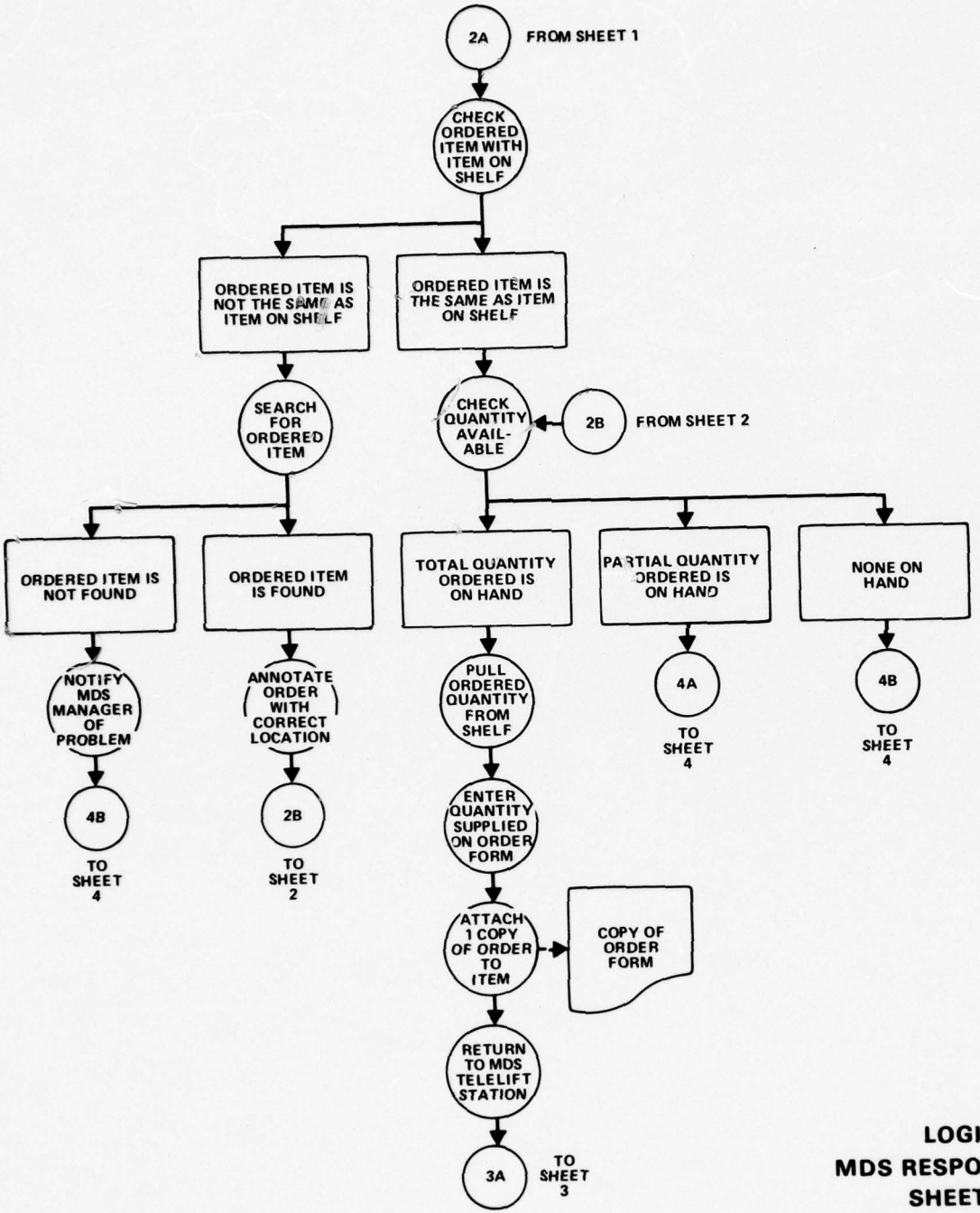
LOGISTICS SUBSYSTEM
MDS RECEIPTS PROCESS
SHEET 2 OF 2 17 DEC 1975



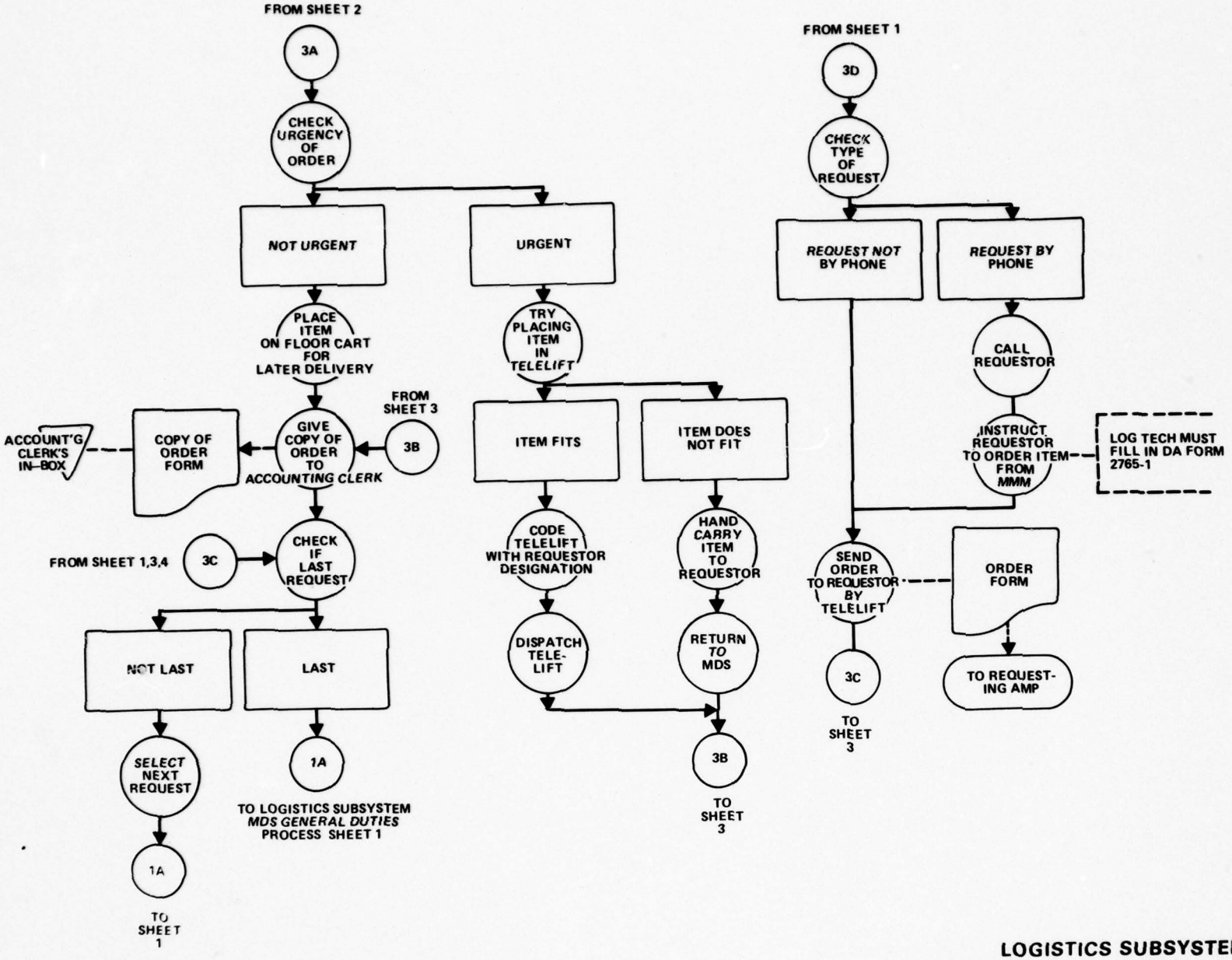
LOGISTICS SUBSYSTEM
PROCESS RECEIVING DOCUMENTS PROCESS
SHEET 1 OF 1 24 DEC 75



LOGISTICS SUBSYSTEM
MDS RESPONSE TO ORDERS PROCESS
SHEET 1 OF 4 17 DEC 1975

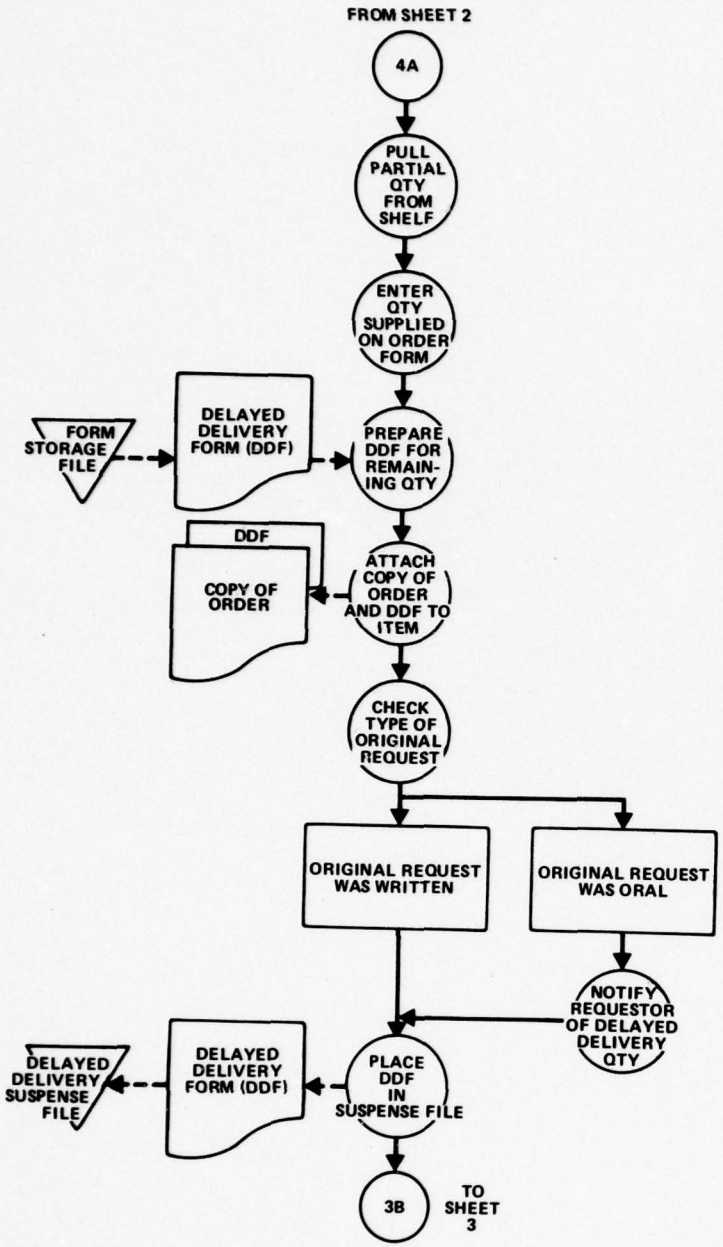


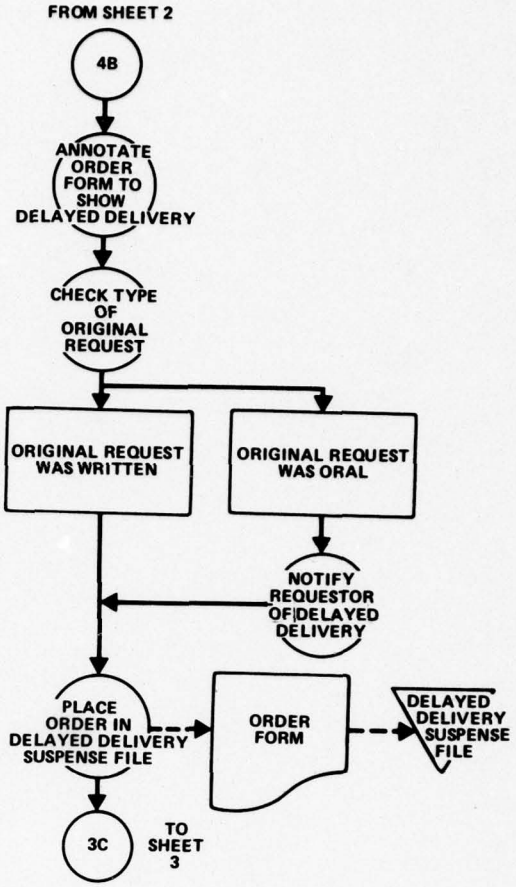
LOGISTICS SUBSYSTEM
MDS RESPONSE TO ORDERS PROCESS
SHEET 2 OF 4 17 DEC 1975



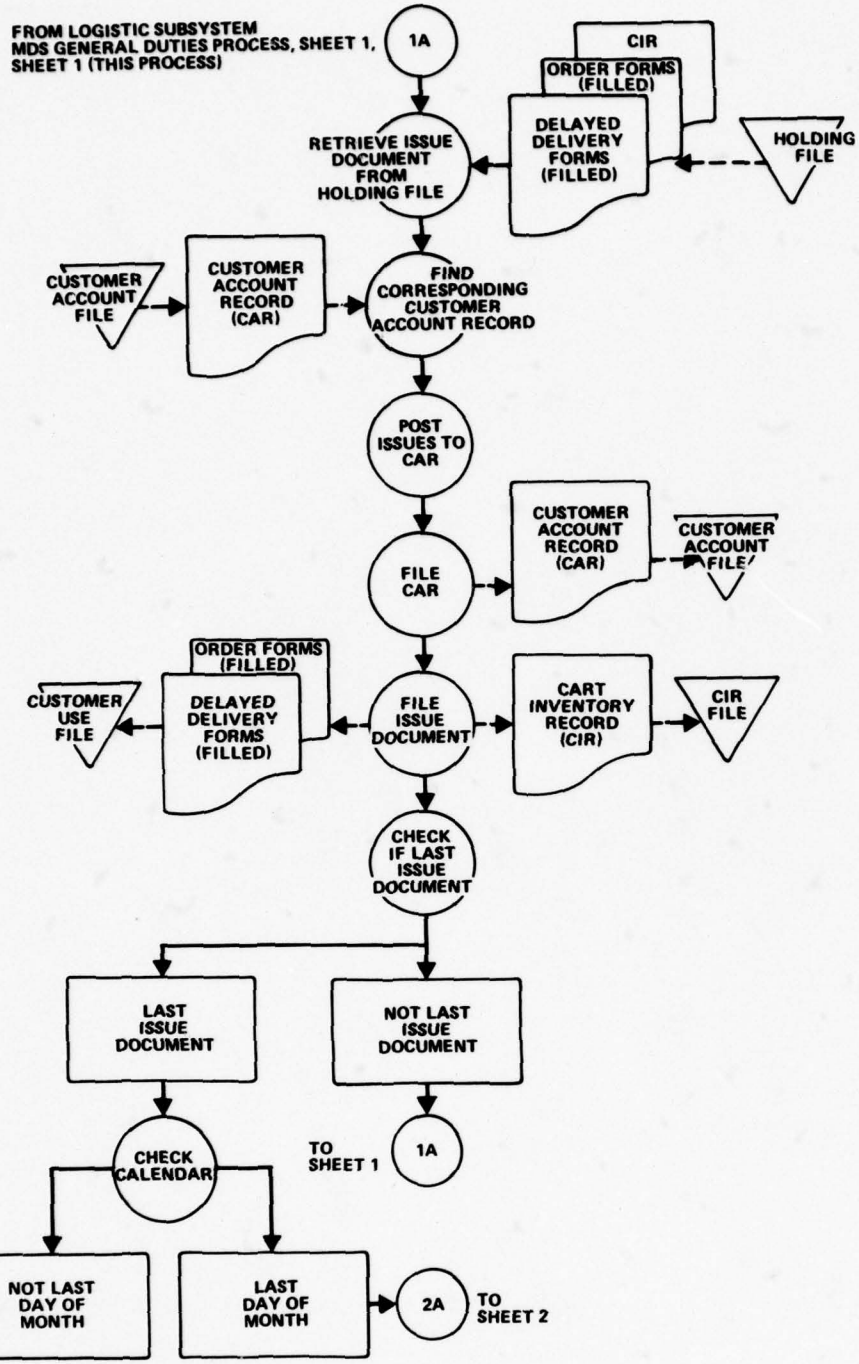
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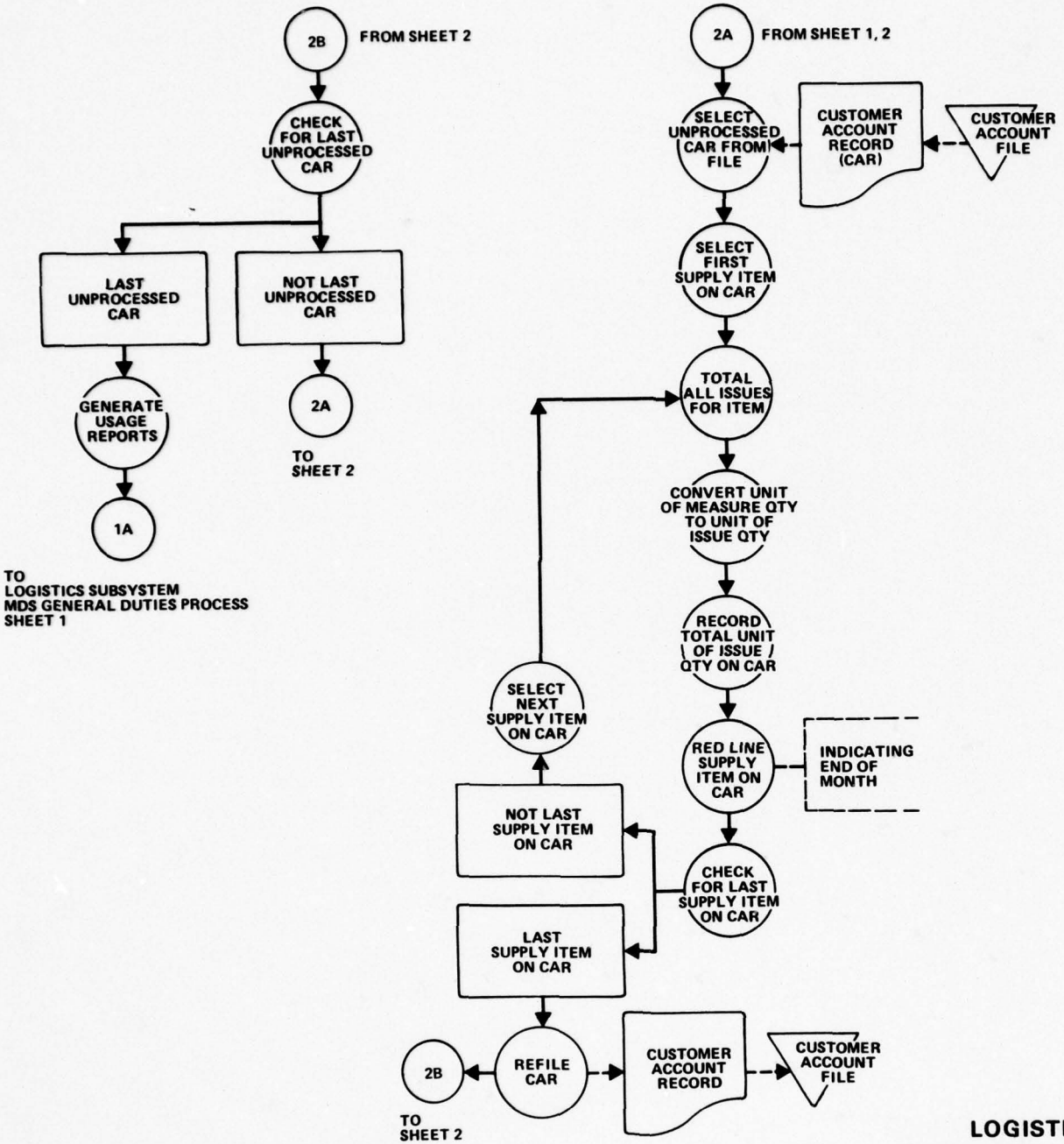




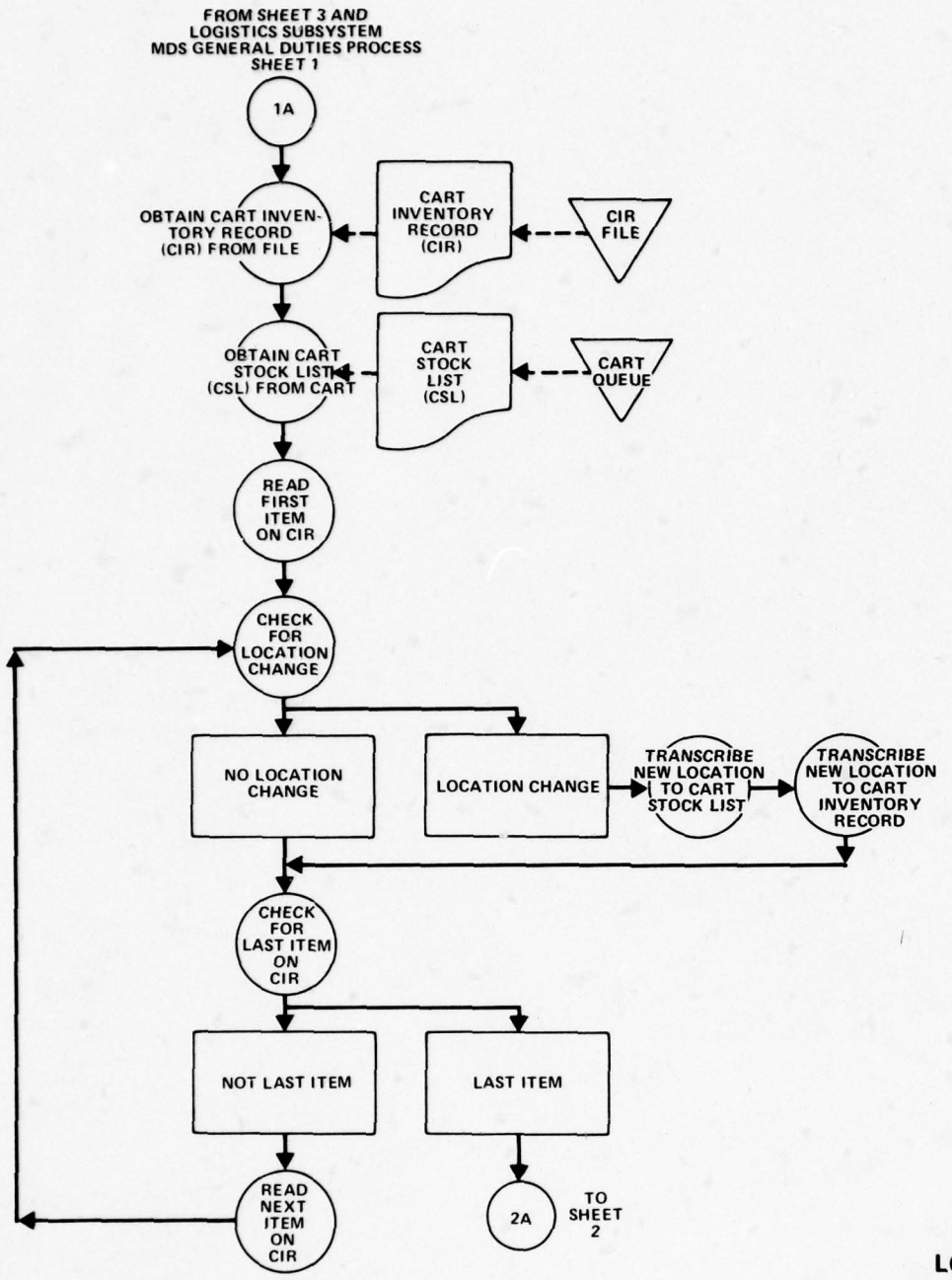
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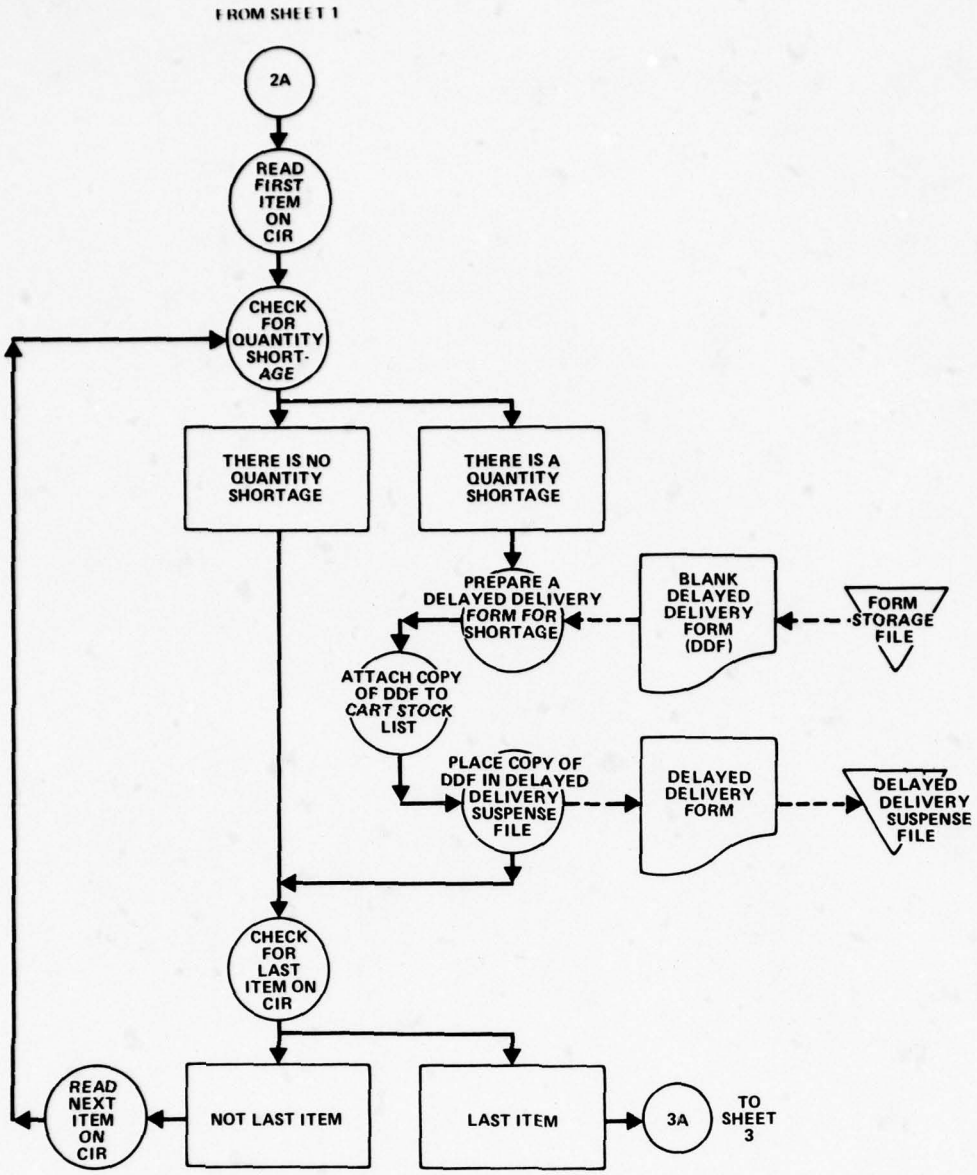
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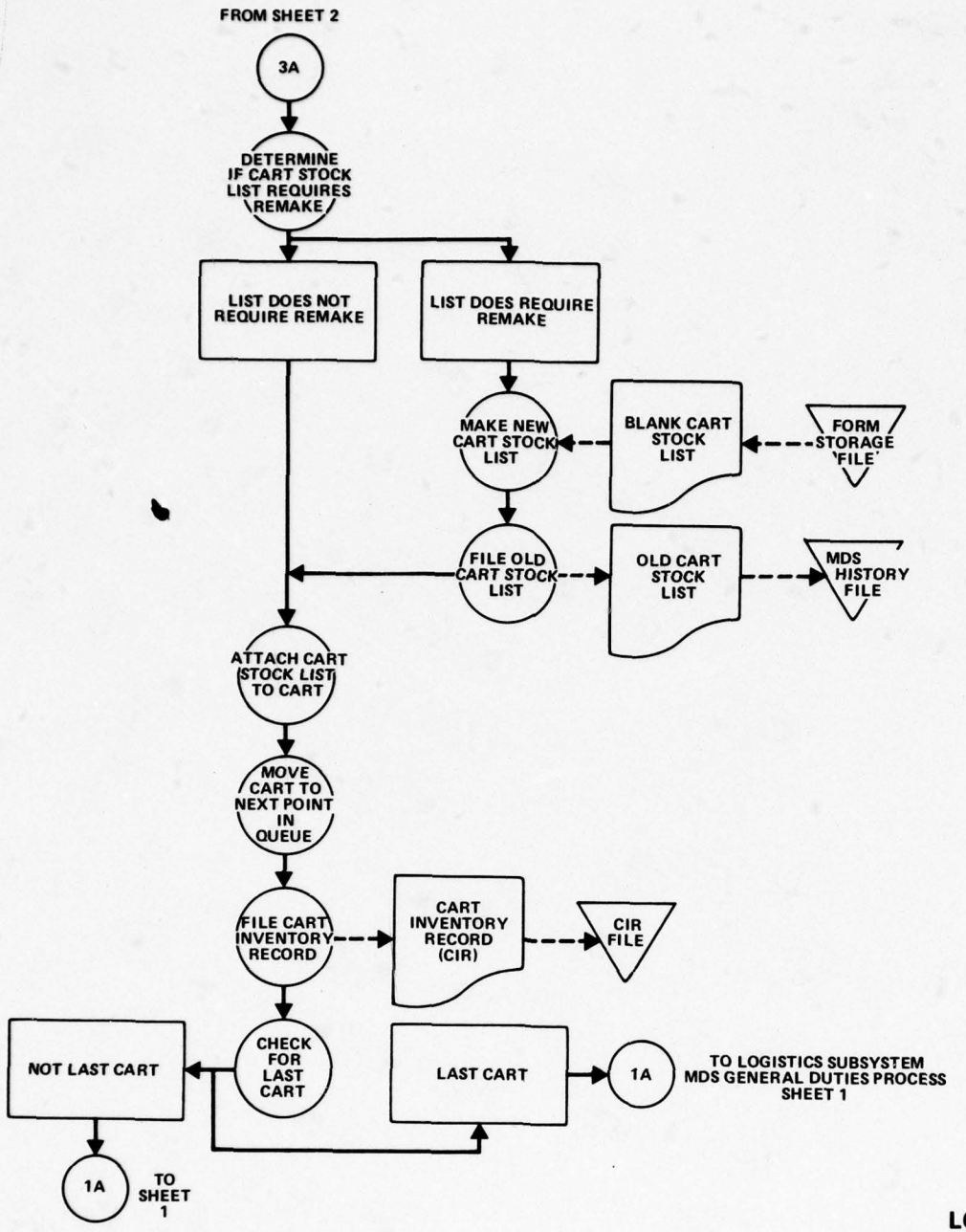
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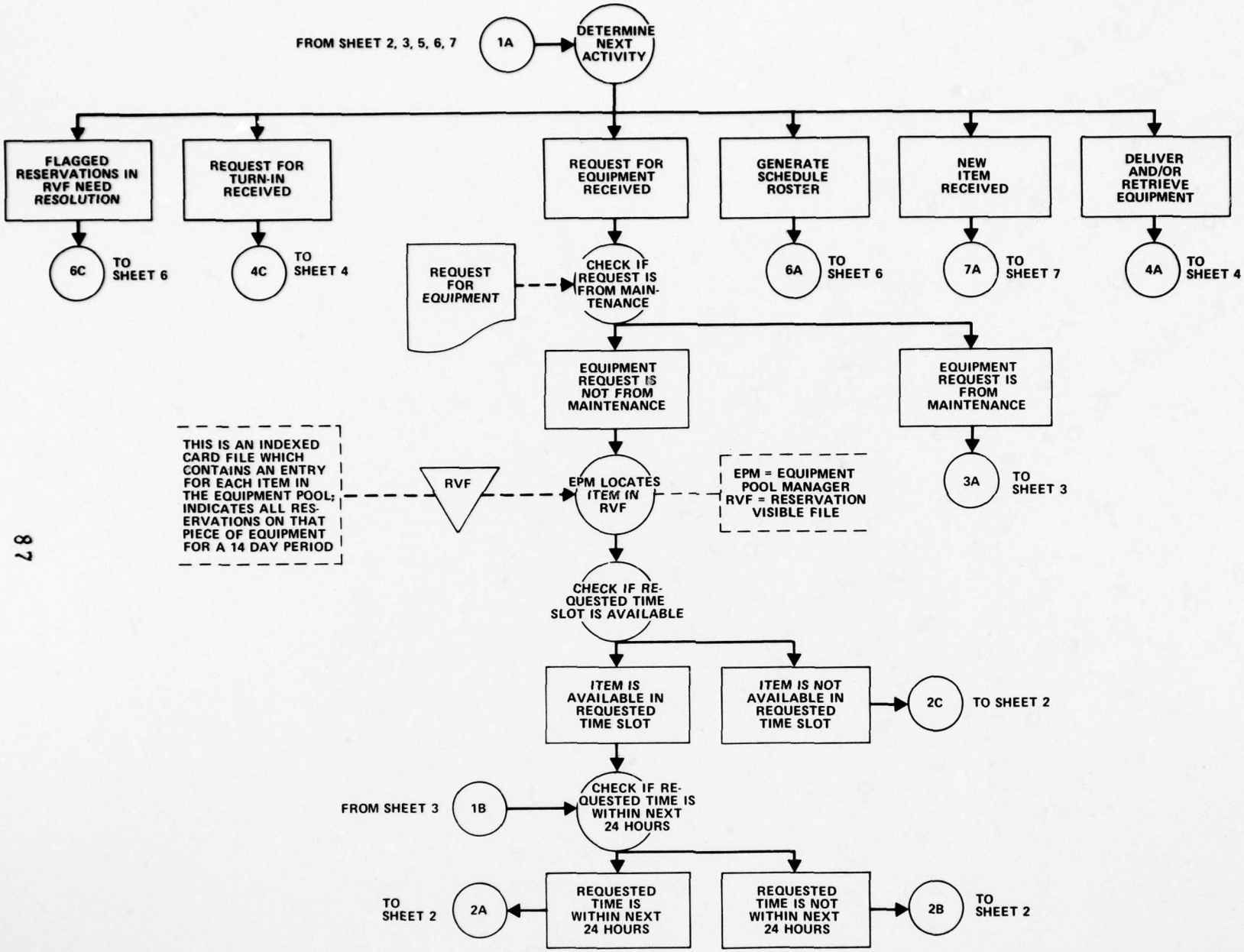
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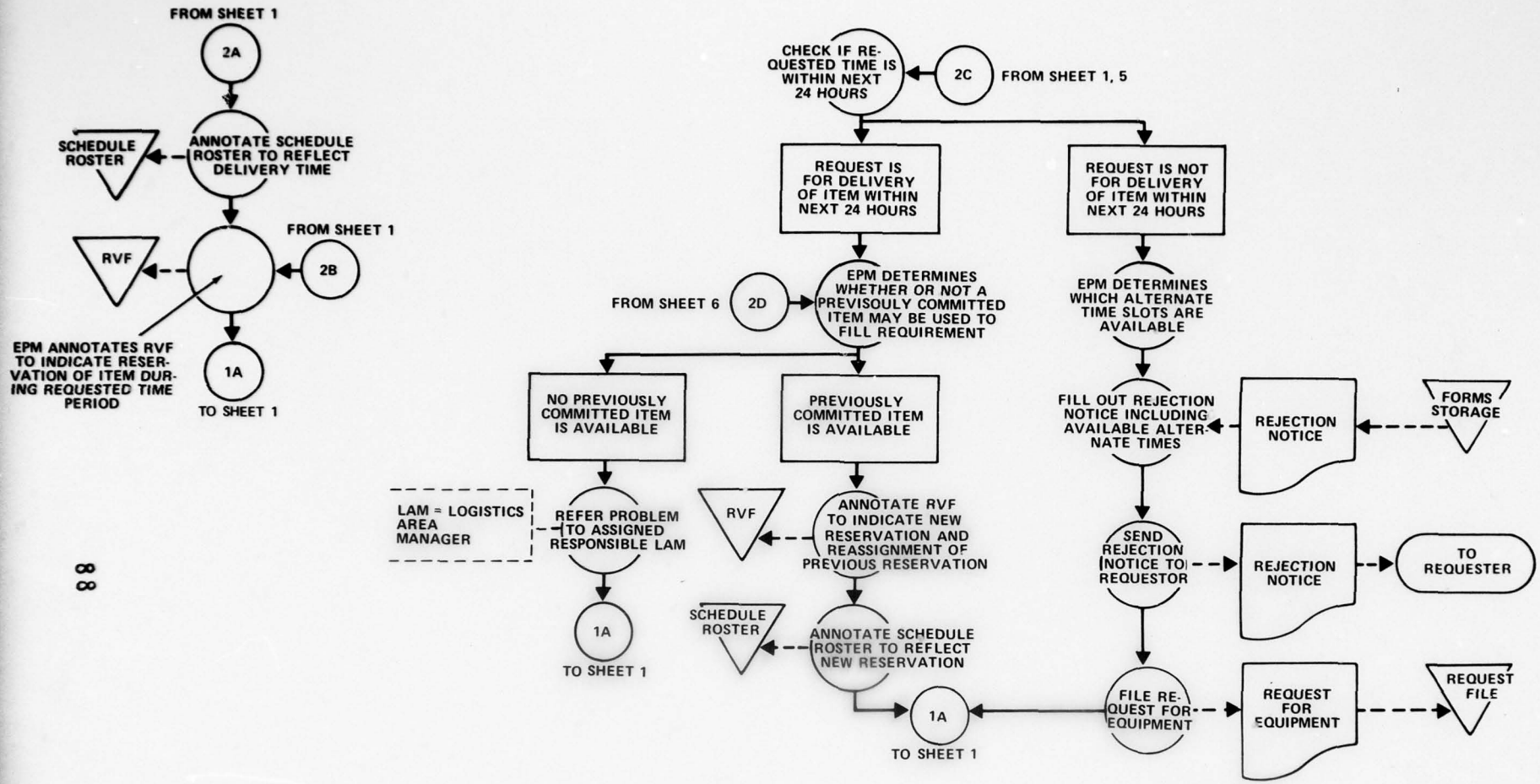
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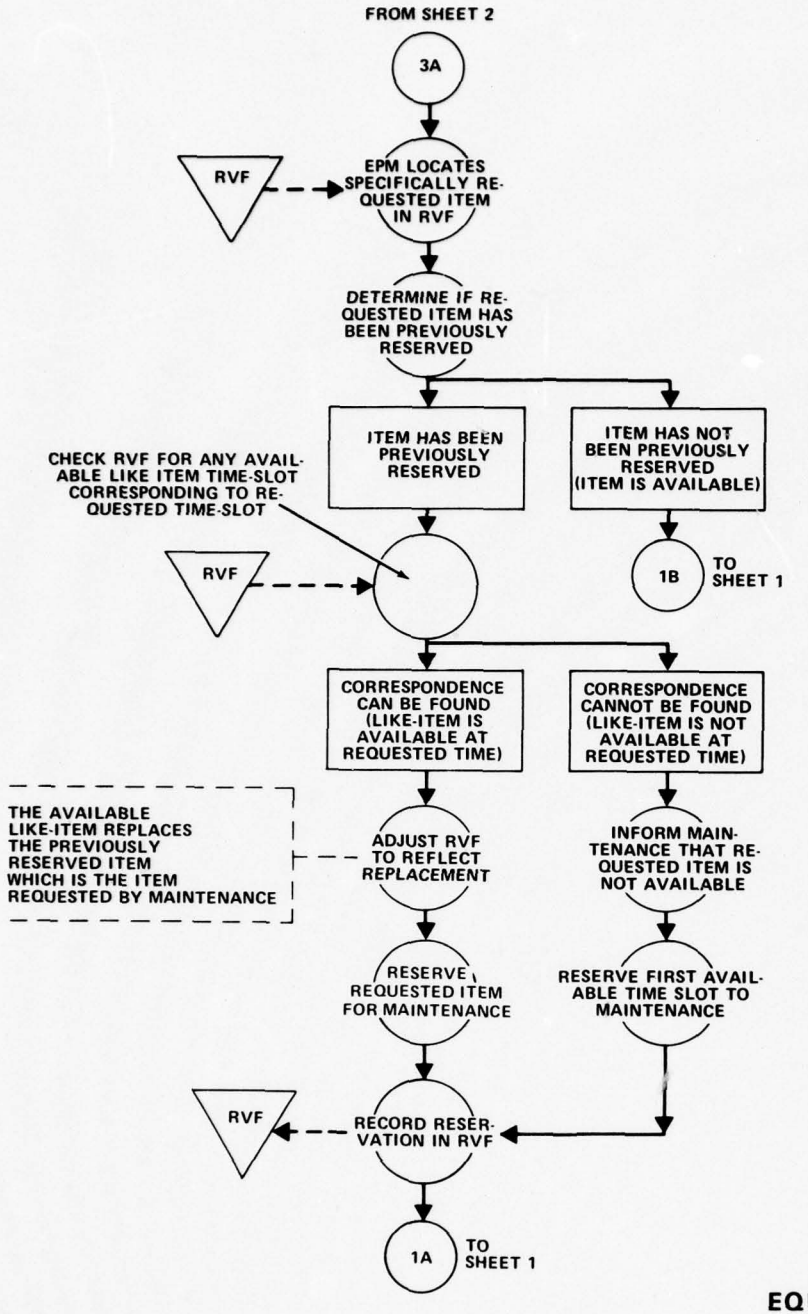
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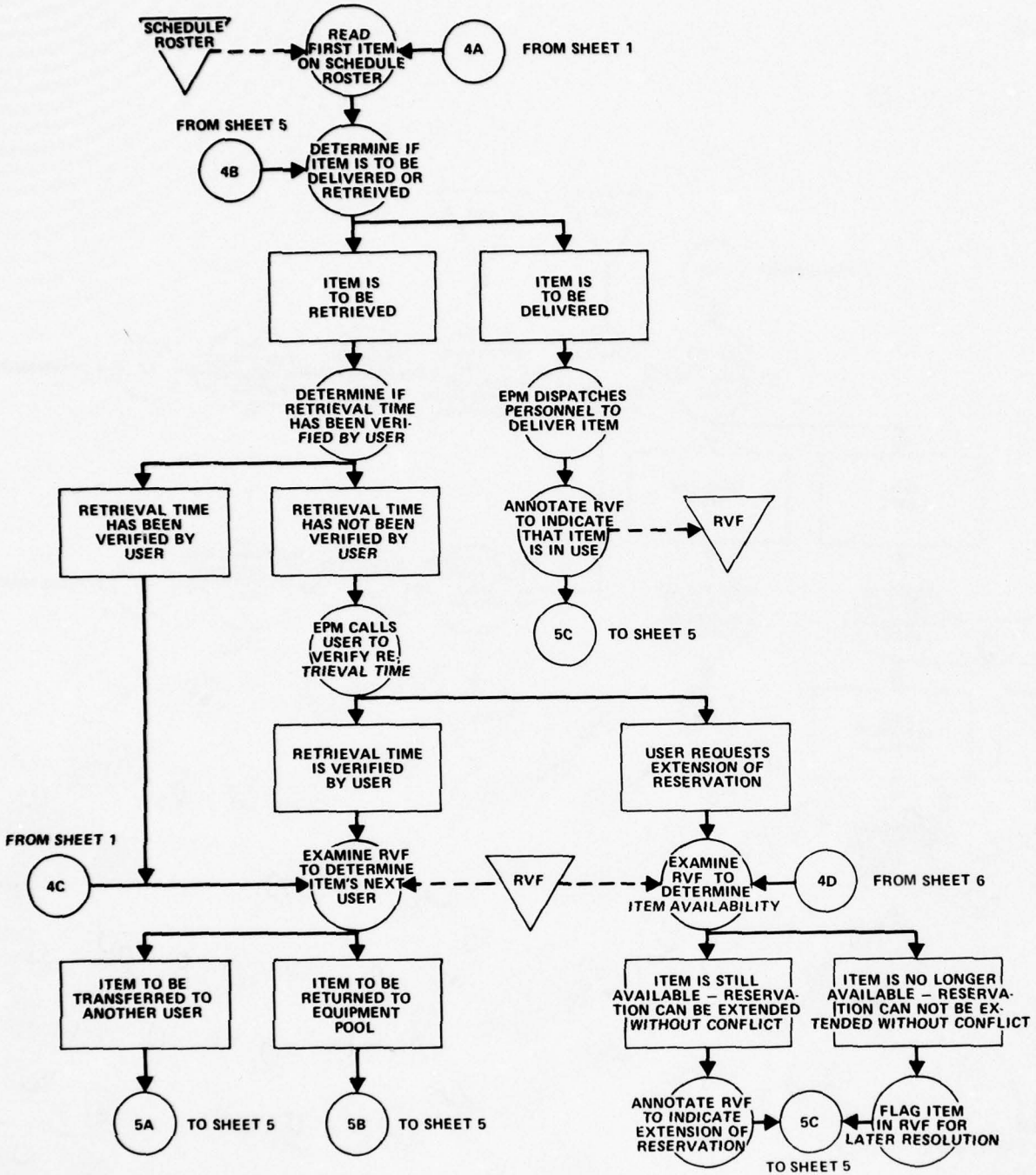
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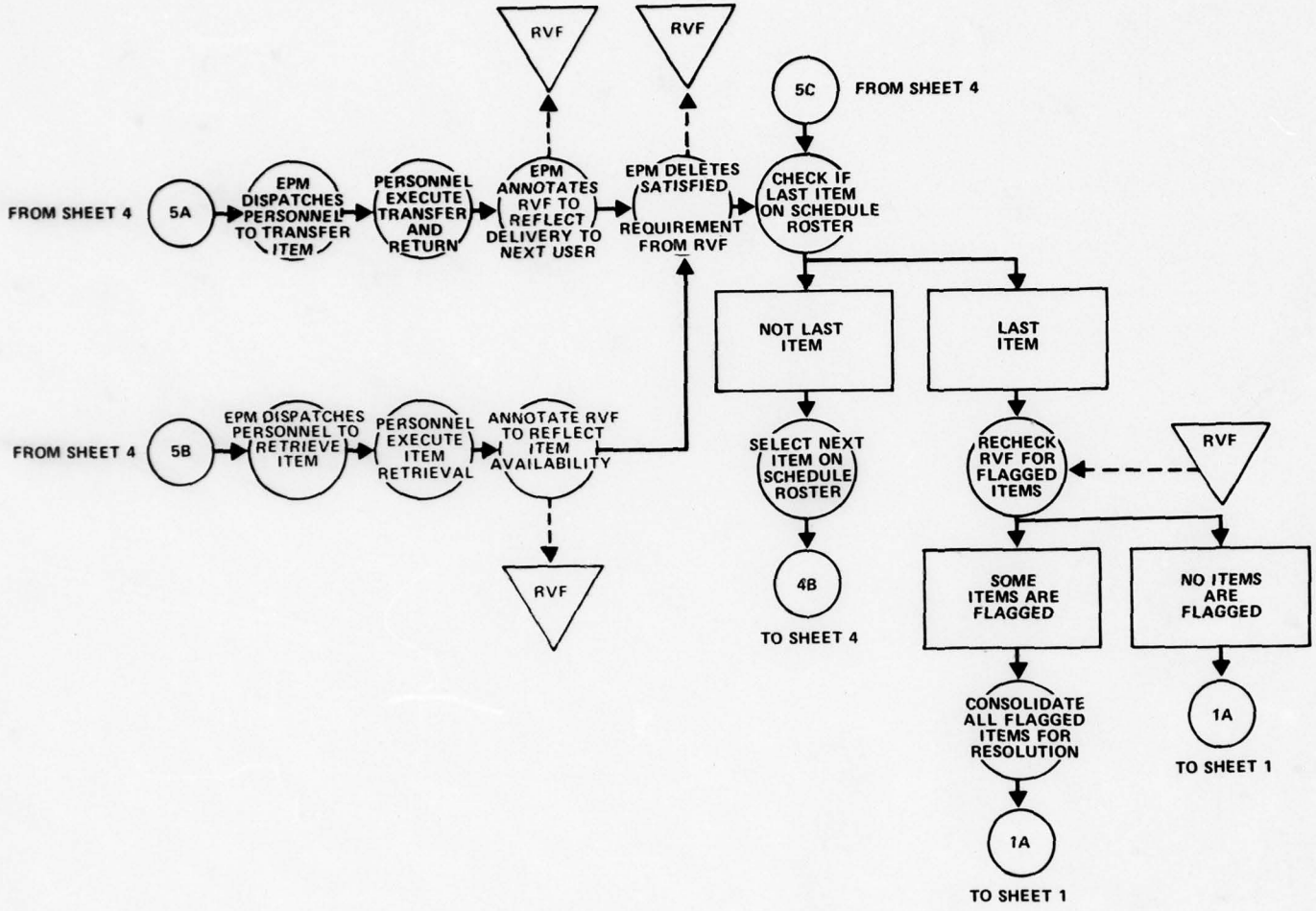


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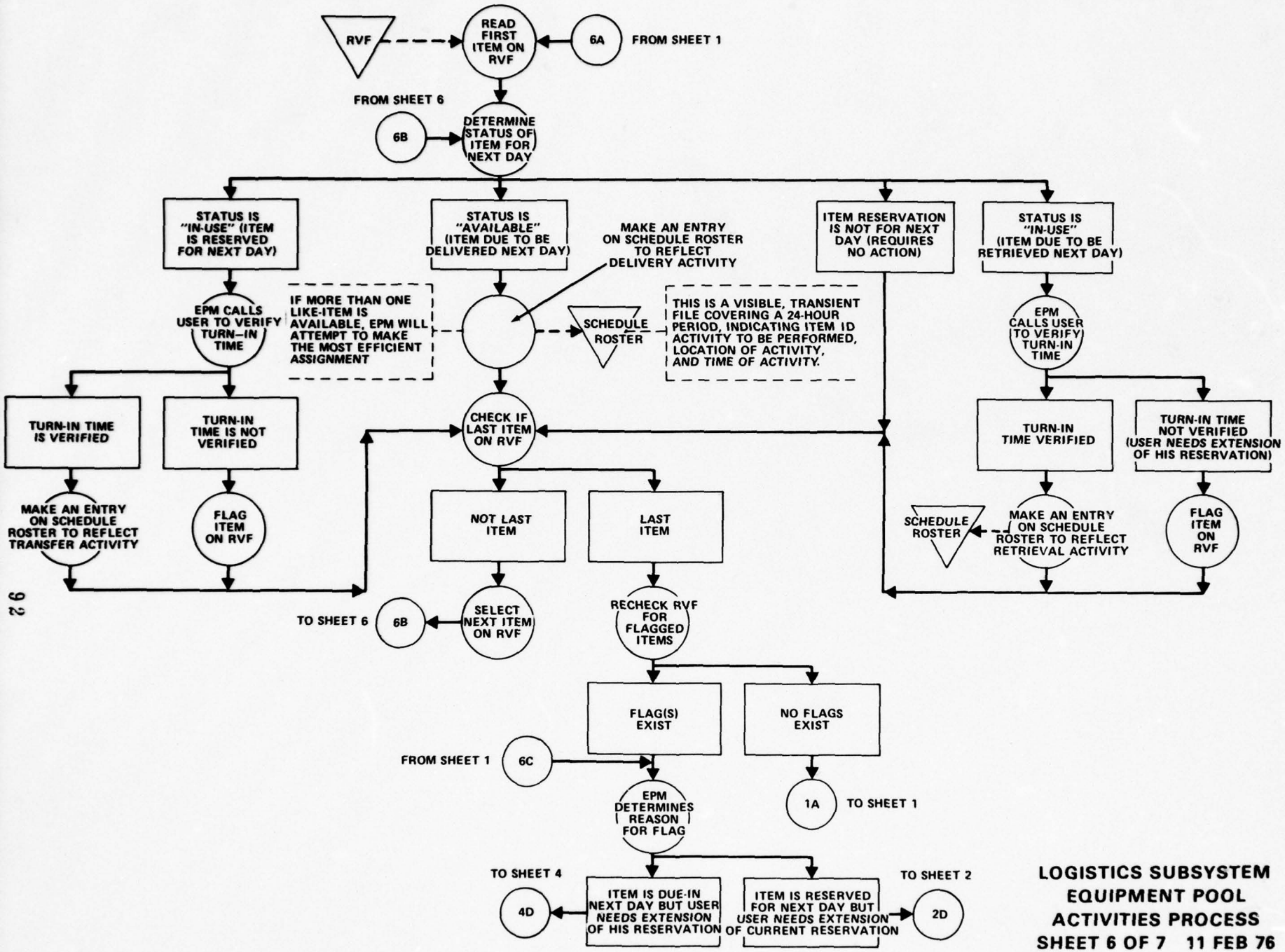


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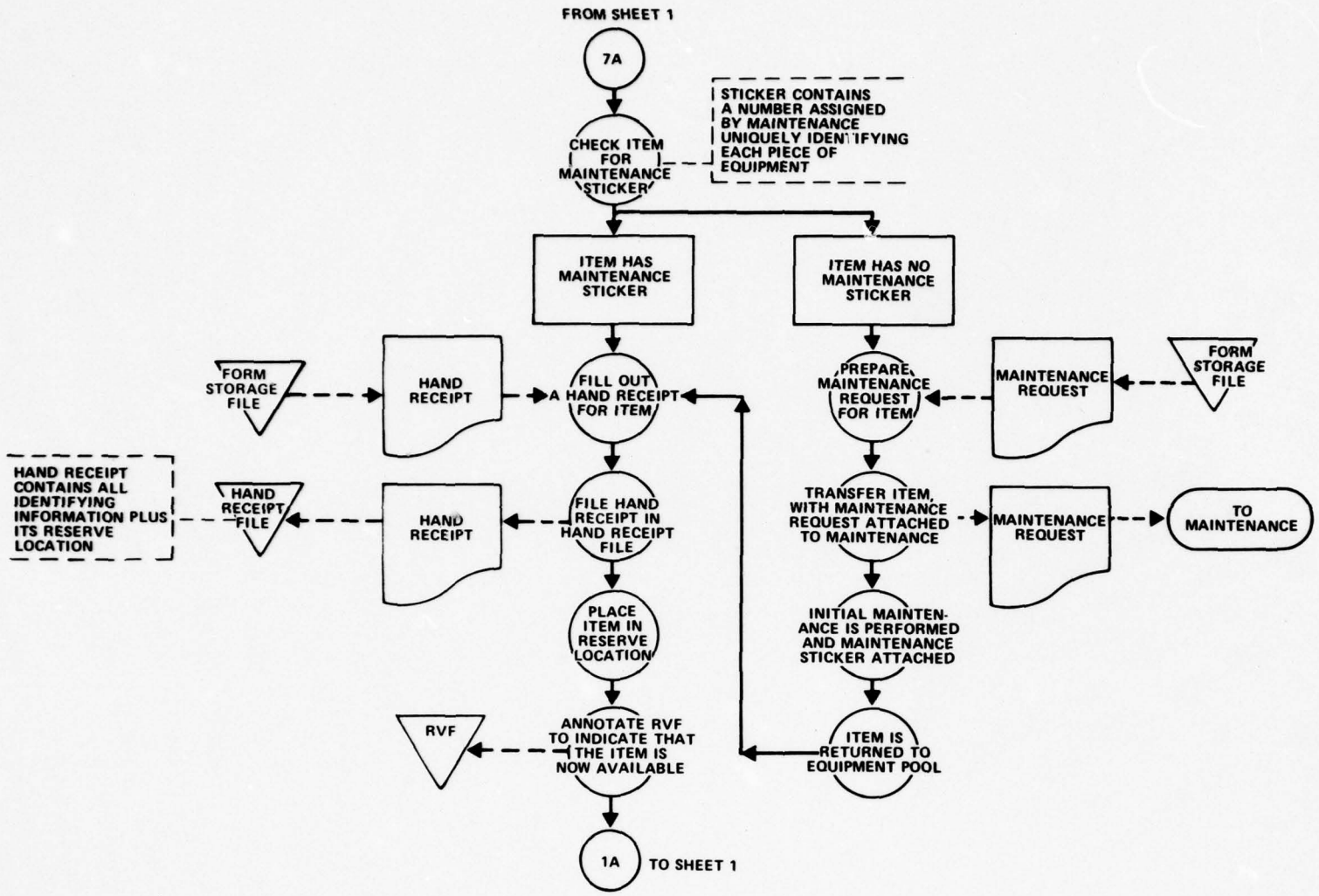
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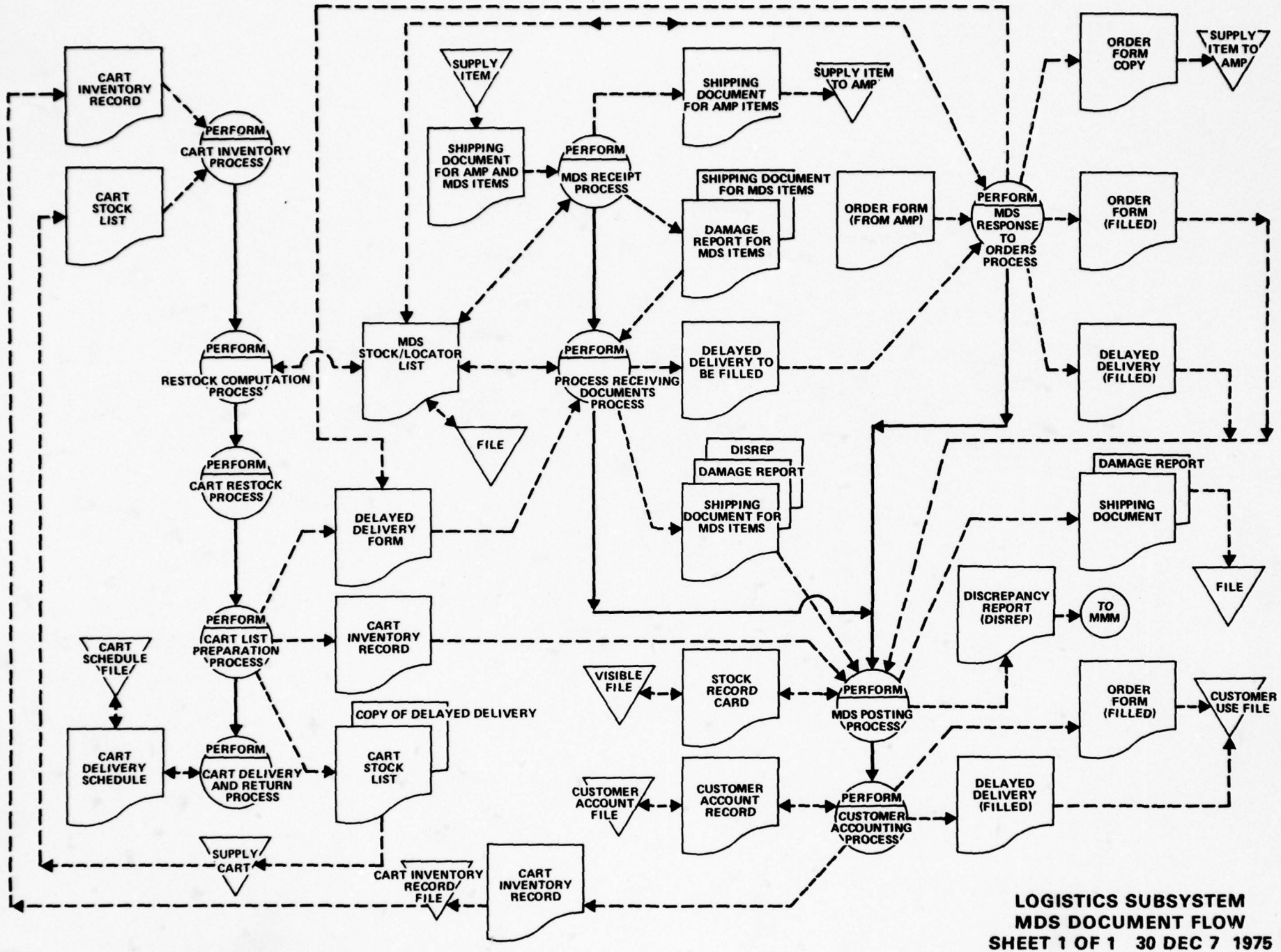
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ABBREVIATIONS

AMP	Area Materiel Point
AUTO DELIV	Automatic Delivery
AVG	Average
CAR	Customer Account Record
CIR	Cart Inventory Record
CMS	Central Materiel Service
COMMO CLERK	Communications Clerk
CORRESPOND'G	Corresponding
CSL	Cart Stock List
DDAMP	Direct Delivery Area Materiel Point
DDF	Delayed Delivery Form
DISREP	Discrepancy Report
DOC	Document
DSA	Defense Supply Agency
EPM	Equipment Pool Manager
EQUIP	Equipment
EST'M'D	Estimated
GSA	General Services Administration
LAM	Logistics Area Manager
LOG TECH	Logistics Technician
MAX	Maximum
MDS	Materiel Disribution Service
MIN	Minimum
MMBP	Medical Materiel Benefits Program
MMM	Medical Materiel Manager
MRO	Materiel Release Order
P&C	Purchasing and Contracting Office
PRESCRIP	Prescription
QC	Quality Control
QOH	Quantity on Hand
QTY	Quantity
REC'D	Received
REQ	Requirement
REQ'D	Required
RFI	Request for Issue
RO	Requisitioning Objective
ROP	Reorder Point
RVF	Reservation Visible File
SCRL	Supply Cabinet Requirement List
SL	Safety Level
SO	Stockage Objective
SRC	Stock Record Card
STAT	Immediate
W/	With
WRAMC	Walter Reed Army Medical Center

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PATIENT

ADMINISTRATION

(PAD)

PROCESS

CONDITION - ACTION DIAGRAM

FLOWCHARTS

US Army TRIMIS Agency

WALTER REED ARMY MEDICAL CENTER

Washington, D. C. 20012

October 1976

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REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: TRIMIS-ARMY-TR-1-4	2. GOVT ACCESSION NO.
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE *(and Subtitle)*: PATIENT ADMINISTRATION (PAD) PROCESS CONDITION-ACTION DIAGRAM FLOWCHARTS	5. TYPE OF REPORT & PERIOD COVERED
6. PERFORMING ORG. REPORT NUMBER: N/A	
7. AUTHOR(s): Douglas Clowers; Lawrence Ruh, CDP; MAJ Lloyd Schlaeppi; LTC Leonard Harris; Karl Schank	8. CONTRACT OR GRANT NUMBER(s): N/A
9. PERFORMING ORGANIZATION NAME AND ADDRESS: USA TRIMIS Agency, WRAMC, Washington, DC 20012	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: USA TRIMIS Agency (SGTR-DO), WRAMC, Washington, DC 20012	12. REPORT DATE: October 1976
	13. NUMBER OF PAGES: 128
14. MONITORING AGENCY NAME & ADDRESS *(if different from Controlling Office)*: N/A	15. SECURITY CLASS. *(of this report)*: UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE: N/A

16. DISTRIBUTION STATEMENT *(of this Report)*

Approved for public release: distribution unlimited

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

Same

18. SUPPLEMENTARY NOTES

For use in conjunction with TRIMIS-ARMY-TR-1-1 Overview.

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Flowchart, Condition-Action Diagram, Health Care, Information System, Ambulatory Care, Hospital Administration, Patient Administration

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

The purpose of the Patient Administrative Division (PAD) condition-action flowcharts is to present in easily understandable graphic form the major patient administration processing involved in a military hospital. The Patient Administration Division provides the patient administration portion of health care support in medical treatment facilities.

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All DOD Medical Treatment Facilities share the common mission of providing quality health care for active duty military personnel, their dependents, retirees, and certain other eligible persons. In support of the mission, it has been recognized that, to effectively control and accomplish the required administrative services for the patient and facility, a separate organization be established within the facility to perform such activities. These charts describe the processes involved in accomplishing the specified activities.

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ACKNOWLEDGMENTS

These charts were developed as a joint effort of the TRIMIS-Army Patient Administrative team (PAD) who also did the initial analysis of the then existing Patient Administrative Division of Walter Reed Army Medical Center (WRAMC). The complete system charted herein was jointly reviewed by TRIMIS-Army, WRAMC PAD, and the TRIMIS-Navy and Air Force PAD with technical assistance from a system Engineering and Integration Contractor (SE&I). The principal personnel involved in this effort were: LTC Len Harris, MAJ Lloyd Schlaeppi, Mr. Larry Ruh and Mr. Douglas Clowers. The SE&I was IBM Federal Systems Division.

A special thank you also to COL Max E. Hoyt, Chief WRAMC PAD, without whose assistance and cooperation it would have been impossible to complete the analysis.

PURPOSE

The purpose of the Patient Administrative Division (PAD) condition-action flowcharts is to present in easily understandable graphic form the major patient administration processing involved in a military hospital. The Patient Administration Division provides the patient administration portion of health care support in medical treatment facilities.

BACKGROUND

All DOD Medical Treatment Facilities (MTFs) share the common mission of providing quality health care for active duty military personnel, their dependents, retirees, and certain other eligible persons. In support of the mission, it has been recognized that, to effectively control and accomplish the required administrative services for the patient and facility, a separate organization be established to perform the following activities.

1. Information Activity
2. Patient Registration
3. Patient Medical Record Management
4. Outpatient Medical Record Finalization
5. Inpatient Preadmission/Admission
6. Inpatients Administrative Data Acquisition
7. Inpatient Disposition
8. Inpatient Medical Record Finalization

9. Medical Evaluation Board Management

10. Medical Service Accounts Support

11. Patients Trust Fund Management

12. Casualty Section Support

13. Birth Reporting

14. Line of Duty/Third Party Liability Support

15. Administrative Report Generation and Management

The basic processes of Patient Administration have been determined to be fundamentally similar in Army, Navy, and Air Force MTFS. However, operating procedures and methodologies, and the reporting requirements of MTF's vary not only among services but also among MTFs within a single service, the latter primarily due to size variations and the MTF's particular mission.

LIMITATIONS

The reader must not at this time expect to find a hospital Patient Administration Division in which the clerks follow exactly all the procedures described herein. This is because the PAD System charted here includes more capabilities than, and is a superset of, any known system at the time of this writing. The system presented here is, in fact, a technology-independent description of the full TRIMIS PAD System design. In addition, the internal details of routine processes such at production of reports are not presented here, as the condition-action diagram format is an inappropriate medium for that type of description.

OBJECTIVES

The basic objective of Patient Administration is to provide patient administration service for the hospital and act as custodian of all medical and clinical records of inpatients and outpatients. This includes administratively admitting and discharging patients, and the receipt, review, maintenance, storage, and disposal of medical records. The Patient Administration Division is also responsible for the functions of hospital treasurer; the preparation of medical, statistical, and other reports; and the preparation of claims for medical services obtained by Army military personnel from civilian medical sources.

OVERVIEW

Specific PAD philosophies, policies, and objectives are outlined under the following requirements headings:

1. Patient Registration

Involves the collection and validation (update) of a prescribed set of core data requisite to patient care in an inpatient or outpatient environment. It is anticipated that a patient will be initially registered the first time he con acts the medical treatment facility and that registration data and his eligibility for care will be checked for validity each time he encounters the facility. Registration establishes the link to identifying all patient records and many hard copy documents and products. The link is "patient identification" (PTID) which consists of patient's name, patient's date of birth, sponsor's social security number, and patient's family member prefix code.

2. Patient Medical Record Management.

Involves all the processes and procedures necessary for the administrative management of all types of patient medical records. These medical records are:

a. Outpatient medical record (including military health record).

b. Inpatient Chart.

c. Inpatient Ward Working File.

d. Clinical Record.

e. Radiology Image Packets and Sub-Image Packets.

f. Dental Record.

It is concerned with the activities associated with timely and accurate creation, location, monitoring, and retirement of the paper record.

3. Outpatient Medical Record Finalization.

Is concerned with the monitoring and accomplishment of all activities associated with the "finalization" of all paper and ADP records for all outpatients who have had an encounter at the Medical Treatment Facility. These activities include:

a. Updating of registration data contained in the Patient Directory to conform to the contents of the encounter form or an annotated registration document.

4. Inpatient Preadmission/Admission

Includes the administrative processes necessary to admit or preadmit an inpatient (including newborn) to the MTF. Admission will normally be accomplished at the Central A&D Office (PASC), however, this process can be accomplished by PAD personnel in a decentralized mode on the ward as necessary. The following procedures may be accomplished or initiated as a part of this process:

a. Determination of Eligibility for Treatment

b. Automatic generation of register number which is episode-unique

c. Activation of the patient's ADP record, if applicable

d. Production of patient ID products to include: wrist bands, bed cards, Medical Inpatient Treatment Recording Cards (MITRC), room name cards, labels for various administrative and clinical files, and Clinical Record Cover Sheet (CRCS) - work copy

e. Initiation of various forms required as a result of inpatient treatment

f. Insure that an admission diagnosis/problem is obtained

g. Initiation of the various administrative processes associated with the patient's condition at time of admission as necessary

h. Assistance in ward assignment and update of ward/bed availabilities.

i. Notification of appropriate individuals or MTF locations

5. Inpatient Administrative Data Acquisition

Consists of two major areas of inpatient administration. These are the maintenance of the assigned location within the MTF of all inpatients and the maintenance of accurate administrative data pertaining to those inpatients.

a. The following activities impact upon the Patient Location Process:

1) Assignment to a Ward/Room/Bed

2) Inter/Intra Ward Transfer

3) Change of Status (In/Out) - military patient only

b. The following are examples of patient administrative data:

1) Primary Care Provider

2) Primary Health Care Delivery Team

3) Clinical Service

4) Diagnosis(es)

5) Patient Category

6. Inpatient Disposition

Consists of three sub-functions: projected dispostion, predisposition, and final disposition.

a. The projected dispostion process applies ony to active duty military patients. It consists of establishing a projected date (month and year), type and "PULHES" profile by the physician for the patient. As a result of the establishment of these items, it is possible for PAD in conjunction with other MTF Sections to begin in

the following processing (if applicable):

1) Medical Evaluation Board/Physical Evaluation Board (MEB/PEB) Processing

2) Assignment/Attachment to the MTF

3) Acquiring of Military Personnel Records

4) Reassignment Orders, Transportation

b. The predisposition process applies to all inpatients. It provides initiation, management, and monitoring of those actions necessary for the final dispostion of the patient from the MTF. The physician provides the expected date of disposition, usually 2-3 days in advance, depending on MTF policy. This allows other MTF activities to be accomplished prior to actual disposition and results in the reduction of the length of stay.

c. The inpatient final disposition process involves the administrative procedures involved with officially dispositioning a patient from an MTF. These procedures include a series of checks to insure that all pending administrative action requiring the patient's retention in the MTF's jurisdiction have been completed and that a care provider has authorized the termination of inpatient care.

7. Inpatient Medical Record Finalization

Is concerned with the monitoring and accomplishment of all activities associated with the "finalization" of all paper and ADP computer records for all inpatients dispositioned from the Medical Treatment Facility. These activities include:

a. Assembly of the Medical Record

b. Typing of Narrative Summary and Operation Reports

c. Individual Patient Data System (IPDS) Data Extract, Coding, and Analysis

d. CRCS Production

e. Record Closeout and Final Review

f. Filing in MTF Record Library for Subsequent Committee Review and Reference by others

8. Medical Evaluation Board (MEB) Management

Is concerned with the identification and subsequent monitoring of those patients who are required to have a Medical Evaluation Board. Once a patient is identified as an MEB case, a physician will convene the board and dictate the proceedings. PAD is responsible for monitoring the progress of the steps in the process including some or all of the following (depending on the case):

a. Personnel Record Abstract Ordered and Received

b. MEB Scheduled

c. MEB Held

d. MEB Draft Dictation Process

e. MEB Final Dictation Process

f. MEB Completed

g. MEB to Military Personnel or Physical Evaluation Board (PEB)

h. Returned from PEB

9. Medical Services Account (MSA) Support

Applies to the identification and subsequent maintenance of all pay and reimbursable accounts, generates initial billing and follow-up billing, and furnishes reports required for MSA management in the oupatient/inpatient environment.

An automated bill (MSA-Invoice and Receipt) will be produced on demand at the MSA terminal in order that a pay patient may have the option of paying his current bill while still being treated at the facility or at time of disposition. All other pay patients may be billed through the mail, depending on MTF policy.

Periodic transfer of delinquent accuonts receivable to the servicing Finance and Accounting Office (FAO) will be automatically completed based on an internal suspense system which will also produce follow-up billing. Transfer of accounts to FAO will be made when the account has been determined to be uncollectable (by MTF and/or Military Service policy).

10. Casualty Section Support

Provides the capability to administratively process and manage all inpatients who are classified as seriously ill (SI), very seriously ill (VSI), or special category (SC), and death cases. PAD's official notification of a patient's classification as SI, VSI, or SC or a death originates with a physician. Upon receipt of official notification, PAD will make proper notification to other functional area personnel, produce casualty reports as required by regulation update the appropriate data base elements and maintain a suspense file to monitor casualty processing.

11. Line of Duty (LOD) and Third Party Liability (TPL) Support

a. Line of Duty

Applies to active duty military inpatients and outpatients. It involves the administrative processing, requisite identification, and distribution required to Unit Commanders of personnel who have been treated at an MTF for an injured condition or certain specified disease conditions. Identification is made at the time of admission (for inpatients) and at outpatient medical record finalization.

b. Third Party Liability

Applies to all inpatients and outpatients. It is concerned with the identification of those patients (of any category) treated for an injury in which the government may recover from third parties the reasonable cost associated with the care rendered. Identification is made at the same time as Line of Duty. PAD reviews the circumstances surrounding the case and forwards information on potential cases to the JAG Office for determination. PAD is also responsible for preparing forms containing cost of treatment in those cases in which costs are determined by JAG to be recoverable.

EXPECTED BENEFITS include:

1. Improved local control and responsiveness
2. Improved patient accounting
3. Improved patient and professional satisfaction
4. Improved documentation of patient episode/encounter

5. Improved maintenance of the medical data base and health care plan.

6. Improved monitoring of all actions (and each step of each action) leading toward final disposition of a patient.

7. Improved medical record control.

8. Improved utilization of PAD resources.

9. Improved report generation.

INTERFACES

To perform the above processes and accomplish the basic objectives, the Patient Administration Division must interface with the following internal and external sources:

1. Internal (Post, Camp or Station) Interfaces

   a. The Patient and Family

   b. Hospital Commander and AOD

   c. Chief, Professional Services

   d. Information Desk

   e. Chaplain

   f. Red Cross

   g. Department/Services

   h. Post Judge Advocate Genera's Office (JAG)

   i. Post Inspector General's Office (IG)

   j. Military Patient Personnel

p. Finance and Accounting

q. Provost Marshall

r. Post Locator Service

s. Medical Holding Company Detachment

t. Patient's Unit/Commander

2. External Interfaces

a. The White House, Department of State, Department of Defense, and Congress (Professional/Medical Inquiries)

b. CHAMPUS Information

c. ASMRO (Air Evacuation)

d. National Personnel Record Center

e. Higher Medical Commands and The Surgeon General's Office

f. DA Personnel (Adjutant General's Office (AG))

g. DA Casualty Division

h. Veterans Administration (VA)

i. Bureau of Vital Statistics

j. Department of Epidemiological Services, Bureau of Disease Control, the Communicable Disease Center, WRAIR, and AFIP

k. Joint Commission on Accreditation of Hospitals (JCAH)

l. The Local Coroner

m. Outlying Clinics

SUBSYSTEM INTERFACES

There are major interfaces to all other TRIMIS subsystems (except logistics) particularly including the two-way transfer of patient registration (Directory) data. Specifically included are Wards and Clinics (W/C), Patient Appointments (PAS), Dental, Food Service (FS), and various ancillary services.

AMENABILITY TO ADP SUPPORT

The eventual goal is that PAD be an automated system with significant on-line interactive computer support. However, in these flowcharts, the processing is presented only in terms of procedures. Because of this technology-independent approach, the system and the charts are not in any way tied to the use of a computer or any other technology, thus enhancing their usefulness. In fact, if workload and resources allow, any or all features of PAD may be implemented manually by simply following the flowcharts.

CONDITION-ACTION DIAGRAM INTERPRETATION GUIDE

ACTION

When an action circle is encountered, the specified action, procedure, function, or process is to be performed as noted. An action is performed and never has a truth (true or false) value.



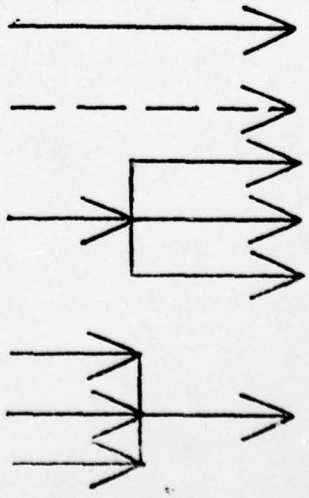
CONDITION

When a condition box is encountered, the specified condition is to be evaluated. If it holds true or succeeds, the following blocks on the diagram are to be executed. If the condition does not hold, then flow along this path of the diagram stops. The flow may, as appropriate, either be permanently blocked or may merely wait at the box pending the successful evaluation of the condition at some later time. A condition always has a truth (true or false) value.



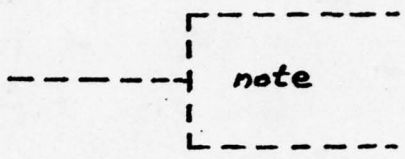
FLOWLINES

Flow proceeds through the diagram along the flowlines. When a flowline splits into multiple lines, all the lines must be followed (perhaps at once). If only one is intended, condition boxes will be used to select the proper line. When flowlines join or reconsolidate into a single line, that line is to be followed regardless of the number of joining lines that were active. Thus there is no waiting at a junction. Control, execution, or interpretation of the diagram is shown by solid flowlines. Data and information, is usually assumed to accompany control, but where necessary for clarity, it is shown, regardless of media, by dashed lines.



NOTE

Clarifying notes, comments, remarks, and other annotation, including references to additional documentation, are enclosed in dashed note boxes and are connected to the annotated structure by dashed lines.



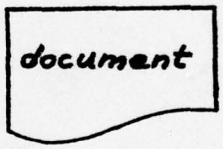
STORAGE

A triangular storage block indicates storage of information or data regardless of the medium of storage. Thus, only dashed data flow lines, not solid control lines, will connect to storage blocks.



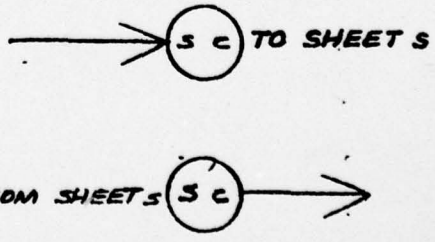
DOCUMENT

A document symbol represents information or data, regardless of media (it may or may not physically reside on a document). It is used only for clarity, as information such as that contained in the "document" is assumed to always be present along with the control flow. Like the storage symbol, only dashed data lines may connect to a document symbol.



CONNECTOR

A connector circle specifies that the flow continues on another page. An out-connector contains a number, which is the sheet number at which the flow is continued, and a letter, which specifies which in-connector on that sheet is being referenced. The in-connector contains the matching number-letter code. Adjacent to the connectors is a notation as to the sheet and process to or from which the connectors refer.



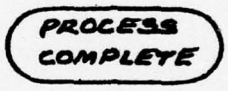
PROCESS

A striped process circle indicates a process to be performed. It is analagous to a high-level or meta-action. The process referenced will be diagrammed in its own set of condition-action flowcharts which are included in the same packet of flowcharts for reference. After the process is performed, flow resumes.



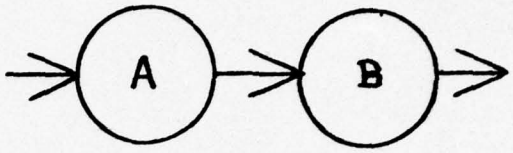
TERMINATOR

The oblong terminator symbol indicates that the current process or sub-process is complete. Normally, upon completion of a process, control returns to the process which invoked it, and resumes where it left off in that process.

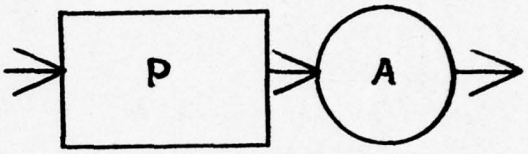


CONDITION-ACTION EXAMPLES

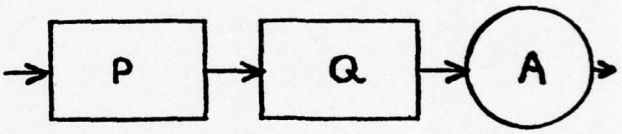
Perform Action A first, then in sequence, perform B.



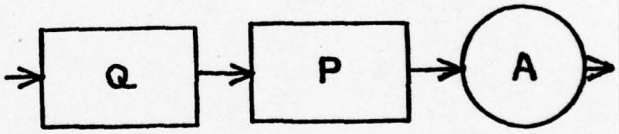
If condition P holds true, then perform Action A. If P does not hold, do not perform A.



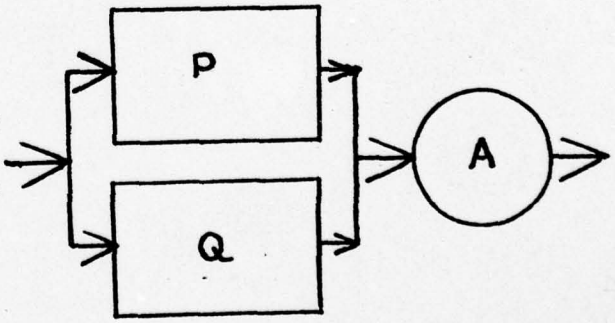
If both condition P and condition Q hold true, then perform A. If either one does not hold, then do not perform A.



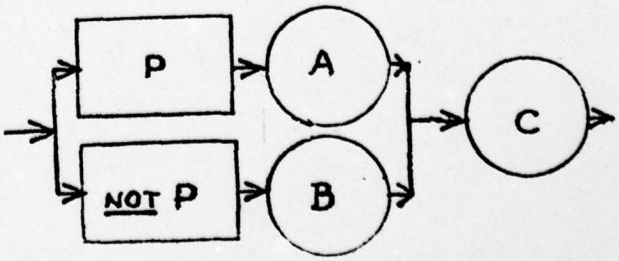
Same function and same net results as above, but evaluated in a different sequence.



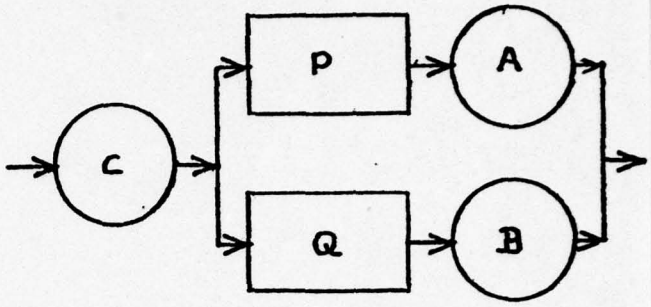
If either condition P holds true, or if condition Q holds true (or both), then perform A. If neither holds true, then do not perform A.



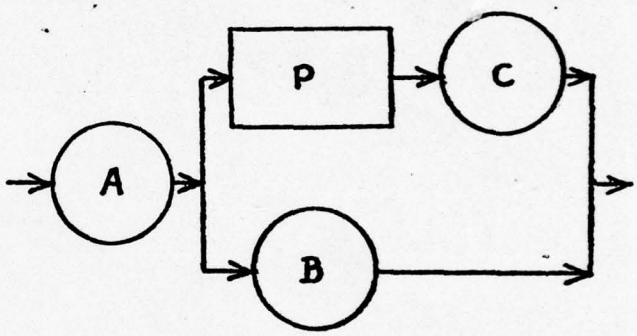
If condition P holds true, then perform Action A but not B. If P does not hold, then perform B but not A. In any case, when done, perform C.



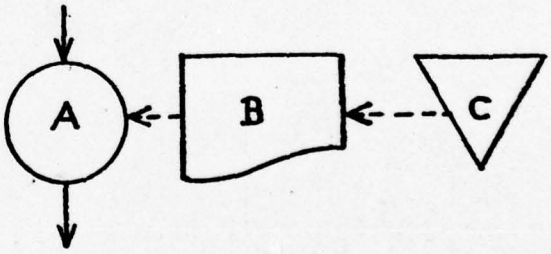
First perform Action C. Then: If condition P holds true, then perform Action A. If condition Q holds true, then perform action B. Note that both P and Q may hold, in which case both A and B will be performed.



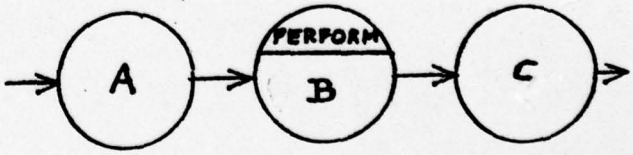
First perform Action A, then (in all cases) perform Action B. Additionally, if condition P holds true, then perform Action C (perhaps at the same time as Action B).



Perform Action A utilizing information contained on the document B which was retrieved from the file C.



First perform Action A. Then perform process B, which is itself flowcharted elsewhere in this set of charts. After B is completed, return to here and perform Action C.



ABBREVIATIONS USED IN PAD CHARTS

A&D	Admissions and Dispositions Section
acct	account
acknowl	acknowledge
adm	admission; administration
admin	administration
admis	admission
ADP	Automatic Data Processing (computers)
AFB	Air Force Base
AFIP	Armed Forces Institute of Pathology
AG	Adjutant General
AIREVAC	Air Evacuation
AM	morning (Latin "ante meridiem")
amt	amount
AOD	Administrative Officer of the Day
approp	appropriate; appropriation
ASMRO	Armed Services Medical Regulating Office
att	attendant
auditg	auditing
bal	balance
balancg	balancing
BAMC	Brooke Army Medical Center
C/A	Collection/Audit
cdr	commander
cert	certificate

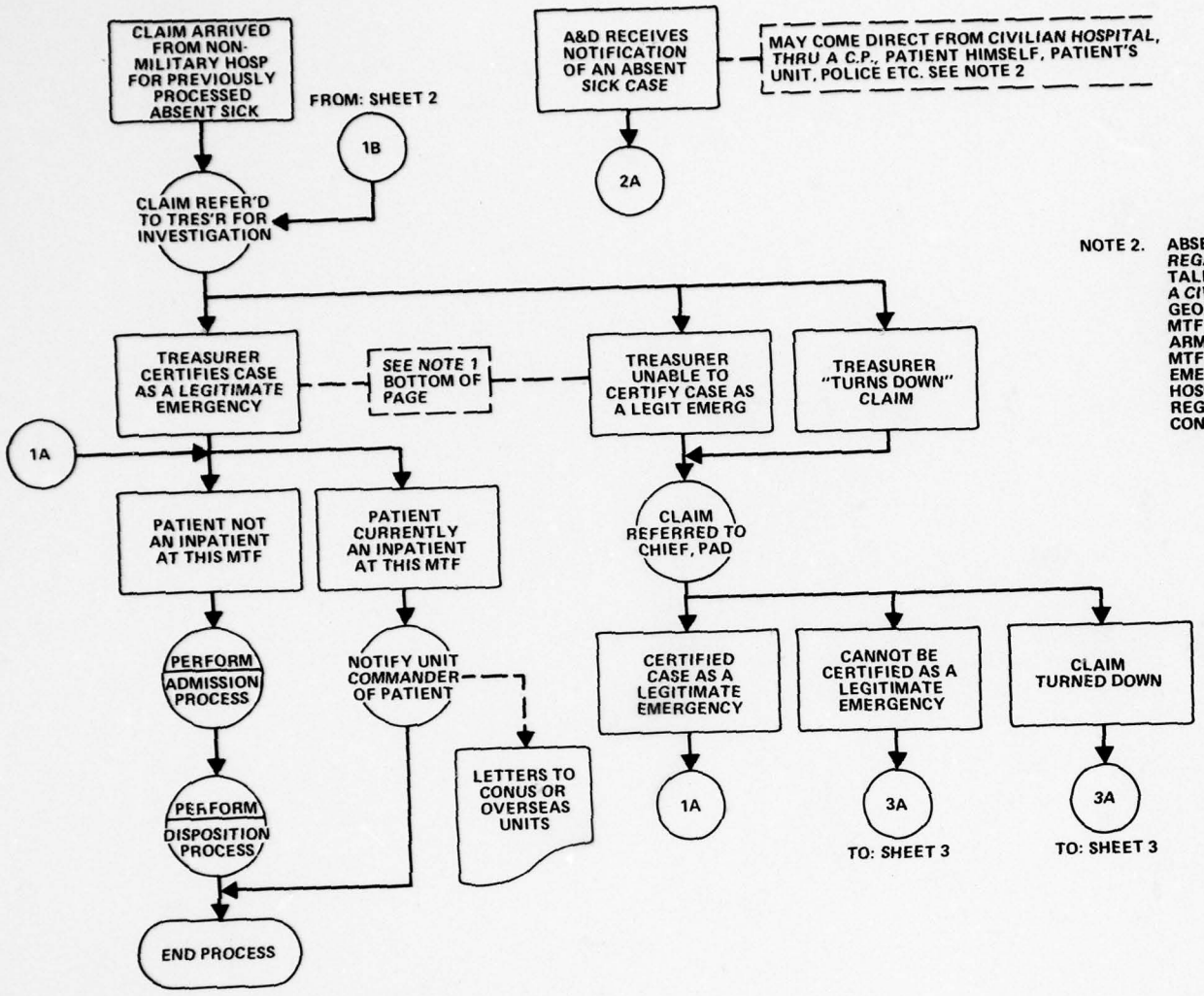
ch	chief
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services
chf	chief
chg	change
cite	citation; cite
CO	Commanding Officer
collec	collect; collection
CONUS	Continental United States (the 48 contiguous states)
coord	coordinate
copter	helicopter
corr	correspond; correspondence
CP	Care Provider (physician, nurse, dentist, etc.)
CRCS	Clinical Record Cover Sheet
Δ T	time elapses; elapsed time ("delta tee")
$'s	money
DA	Department of the Army
detach	detachment
doc	document
docu	document
DoD	Deparment of Defense
emerg	emergent; emergency
EPTS	Existing Prior to (military) Service
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
ETS	Expiration of Term of (military) Service
evac	evacuation

F&A	Finance and Accounting
FAO	Finance and Accounting Office
FS	Food Service
HDQS	headquarters
heli	helicopter
helipad	helicopter landing pad
hist	history
hosp	hospital
HQS	headquarters
HSC	US Army Health Services Command
ID	identification
idx	index
in proc	in-processing
info	information
INPT	inpatient
inv	inventory
inv'ory	inventory
inven	inventory
IPDS	Individual Patient Data System
JAG	Judge Advocate General
JCAH	Joint commission on Accreditation of Hospitals
John Doe	(temporarily) unidentified patient
legit	legitimite
LOD	Line of Duty
log	log; record on a log
LOG	Logistics

MEB	Medical Evaluation Board
med	medical
MEDEVAC	Medical Evacuation
Med Hold	Medical Holding Detachment
MHD	Medical Holding Detachment
mil	military
MITRC	Medical Inpatient Treatment Recording Cart
MRT	Medical Record Technician
MSA	Medical Service Accounts
MTF	Medical Treatment Facility (hospital, medical center, dispensary, health clinic, etc.)
MTRC	Medical Treatment Recording Card
nec	necessary
NOK	Next of Kin
nom	nominal
nom idx	nominal index (index by name of patients)
notif	notify; notificatin
NS OP	Narrative Summary Operation
O/P	outpatient
off	office
ok	okay
OR	Operating Room
orig	original
OTSG	US Army Office of the Surgon General
PAD	Patient Administration; Patient Administration Division of an MTF; TRIMIS Patient Administratin Subsystem

partial	partial; partially
PAS	Patient Appointments System
PASC	Patient Administration Service Center
PCS	Permanent Change of Station
PEB	Physical Evaluation Board
PEBLO	PEB Liaison Officer
per	personnel
pers	personnel
PIO	Public Information Office
pnt	patient
pre/ad- mission	pre-admission or admission
prep	prepare
prev	previous
PRN	as needed; as required (Latin "pro re nata")
prob	problem
proc	process; processing
prod	product; produce
prof	professional
prop	property
Pt	patient
PTF	Patient Trust Fund
PTID	Patient Identification
ptn	patient
pub	public
PULHES	physical profile code

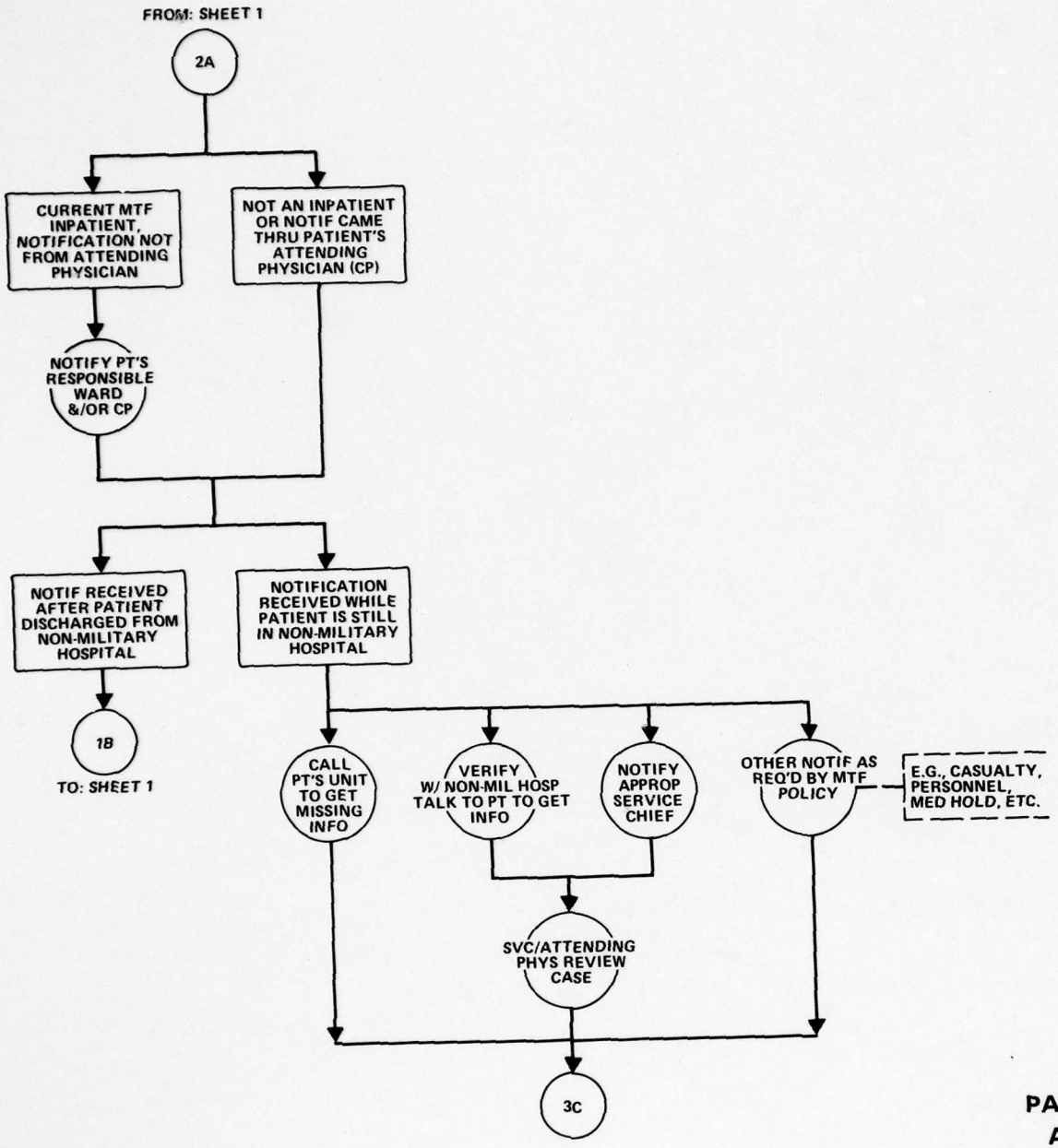
recvg	receiving
refer'd	referred
regis't	registered
rep	representative
TRIMIS	Tri-Service Medical Information System
	(the project, the organization, or the ADP system)
VA	Veterans Administration
vals	valuables
VIP	Very Important Person
VSI	Very Seriously Ill
w/	with
w/draw	withdraw
W/C	Wards and Clinics
w/in	within
WRAIR	Walter Reed Army Institute of Research
WRAMC	Walter Reed Army Medical Center



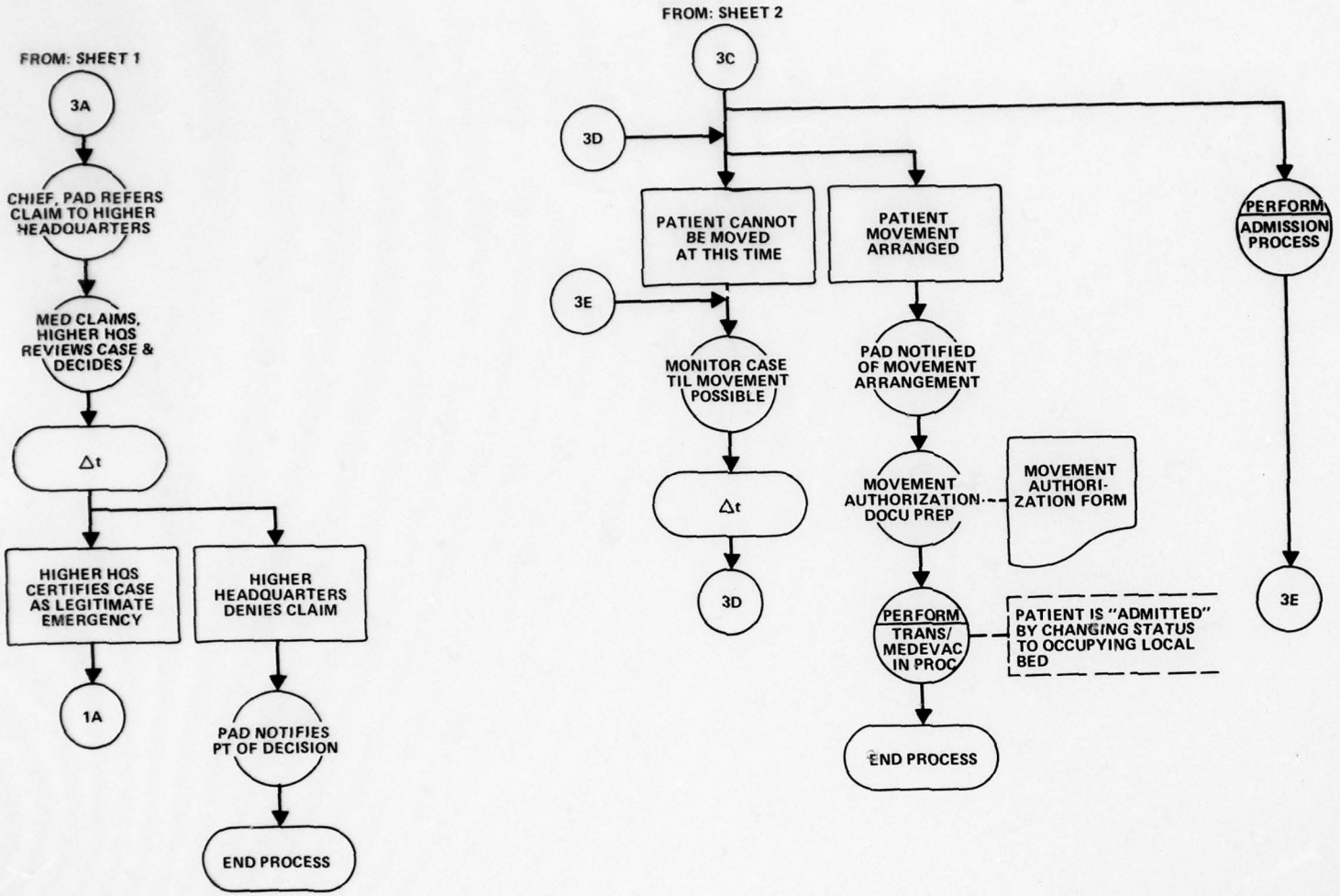
NOTE 2. ABSENT SICK: ANY ACTIVE DUTY MEMBER, REGARDLESS OF SERVICE, WHO IS HOSPITALIZED IN AN EMERGENCY CONDITION, AT A CIVILIAN HOSPITAL W/IN A DESIGNATED GEOGRAPHIC AREA FOR WHICH THE LOCAL MTF IS RESPONSIBLE OR AN ACTIVE DUTY ARMY MEMBER WHO IS AN INPATIENT OF AN MTF WHO BECOMES HOSPITALIZED IN AN EMERGENCY CONDITION AT A CIVILIAN HOSPITAL W/IN THE DESIGNATED GEOGRAPHIC REGION OR ANY MILITARY HOSPITAL IN CONUS

NOTE 1. ABSENT SICK HOSPITALIZATION IS LEGITIMATE ONLY FOR AN ACTIVE DUTY WHO WAS ADMITTED FOR AN EMERGENCY SICKNESS OR INJURY. IN CASES WHERE DOUBT EXISTS AS TO THE EMERGENCY NATURE OF THE ADMISSION, SUCH DOUBT WILL BE RESOLVED JOINTLY BY THE CHIEF, PAD & STAFF PHYSICIANS IF POSSIBLE OR REFERRED TO HIGHER HEADQUARTERS FOR SOLUTION

PATIENT ADMINISTRATION
ABSENT SICK PROCESS
SHEET 1 OF 3 5 JAN 1976



PATIENT ADMINISTRATION
ABSENT SICK PROCESS
SHEET 2 OF 3 5 JAN 1976

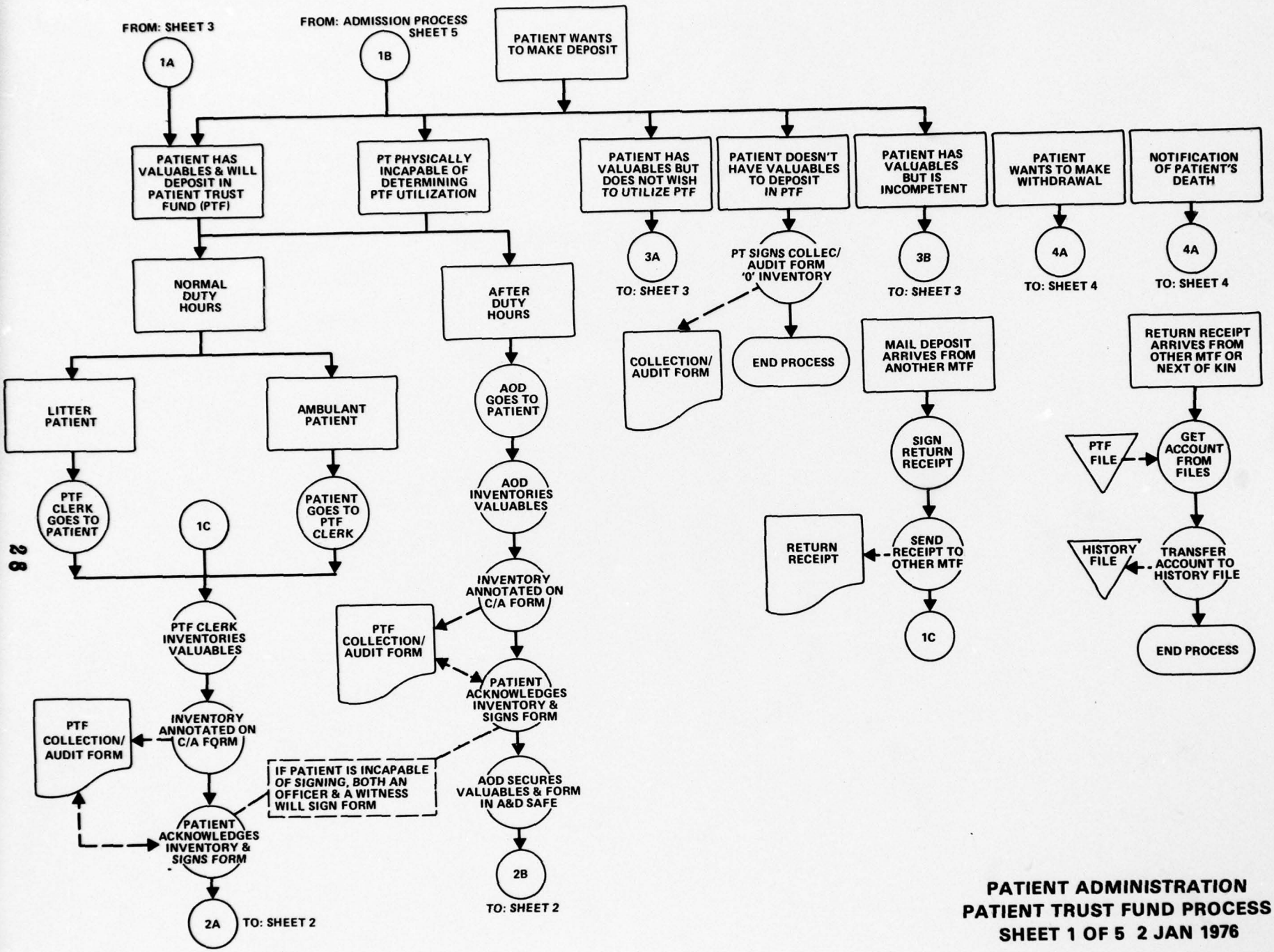


PATIENT ADMINISTRATION
ABSENT SICK PROCESS
SHEET 3 OF 3 5 JAN 1976

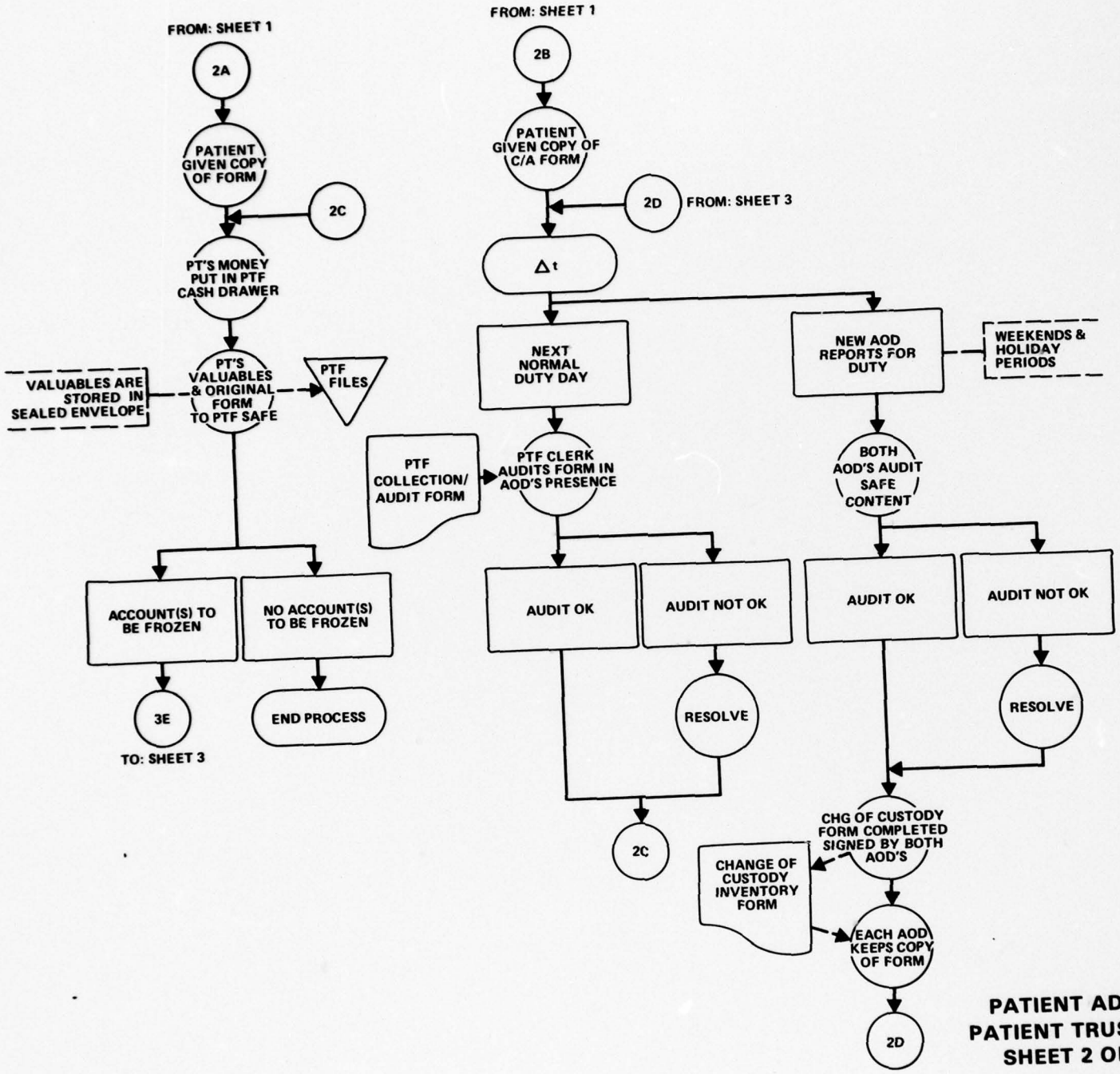
AD-A045 458 ARMY TRIMIS AGENCY WASHINGTON D C F/G 6/5
HEALTH CARE INFORMATION. PROCESS CONDITION-ACTION DIAGRAM FLOWC--ETC(U)
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5 OF 10
AD A045458

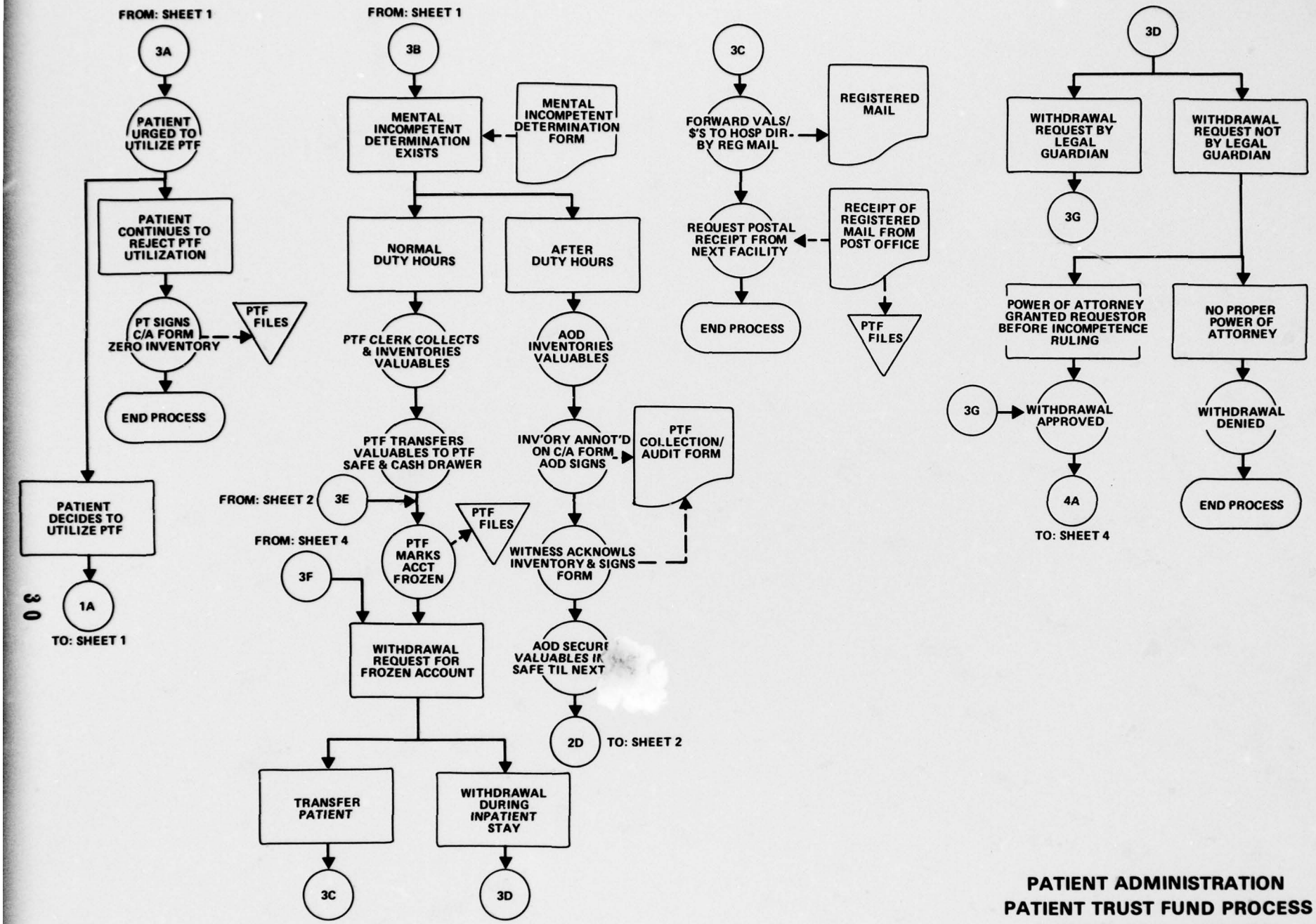




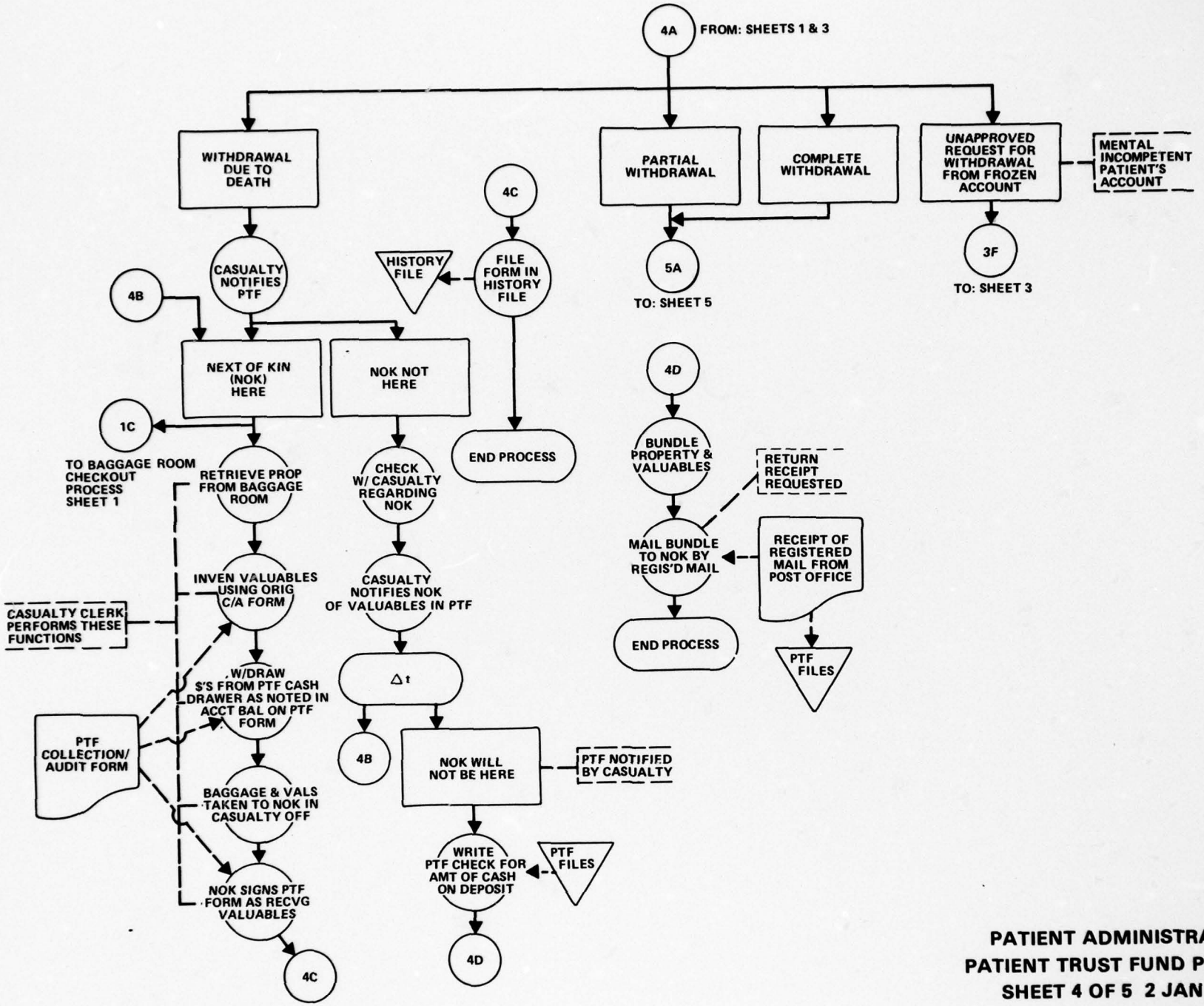
PATIENT ADMINISTRATION
PATIENT TRUST FUND PROCESS
SHEET 1 OF 5 2 JAN 1976



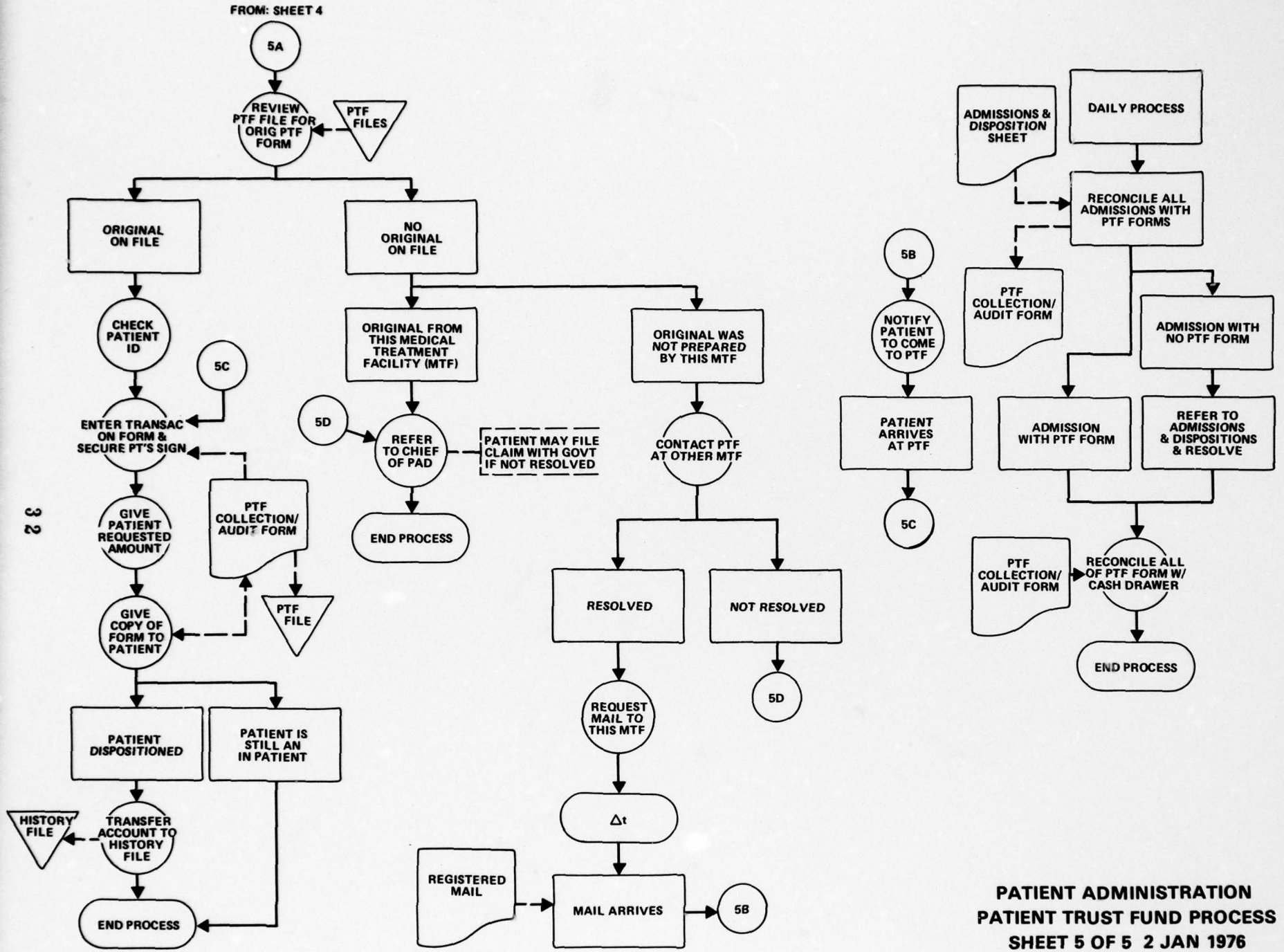
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PATIENT TRUST FUND PROCESS
SHEET 2 OF 5 2 JAN 1976



PATIENT ADMINISTRATION
PATIENT TRUST FUND PROCESS
SHEET 3 OF 5 2 JAN 1976



PATIENT ADMINISTRATION
PATIENT TRUST FUND PROCESS
SHEET 4 OF 5 2 JAN 1976

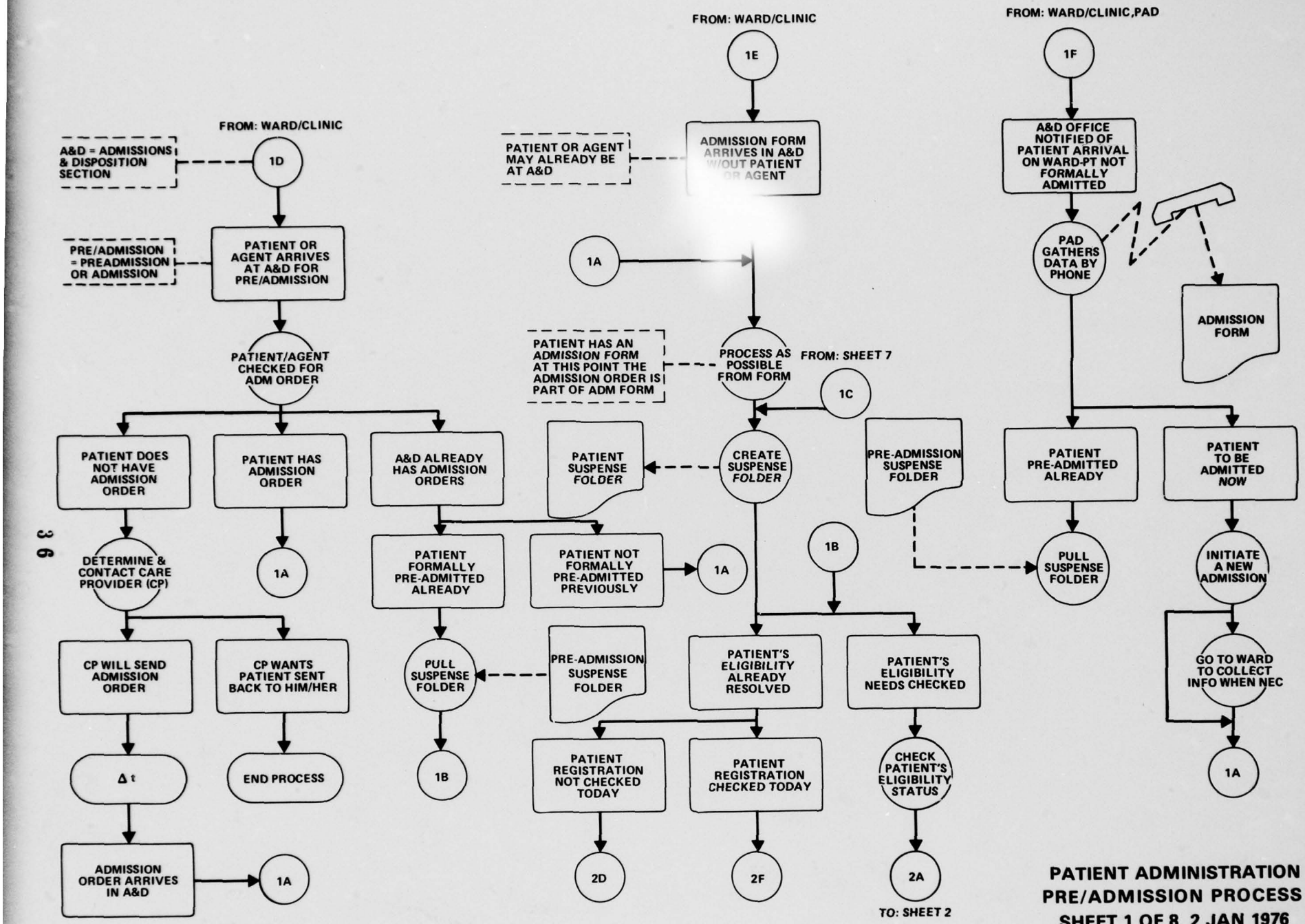


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PATIENT TRUST FUND PROCESS
SHEET 5 OF 5 2 JAN 1976

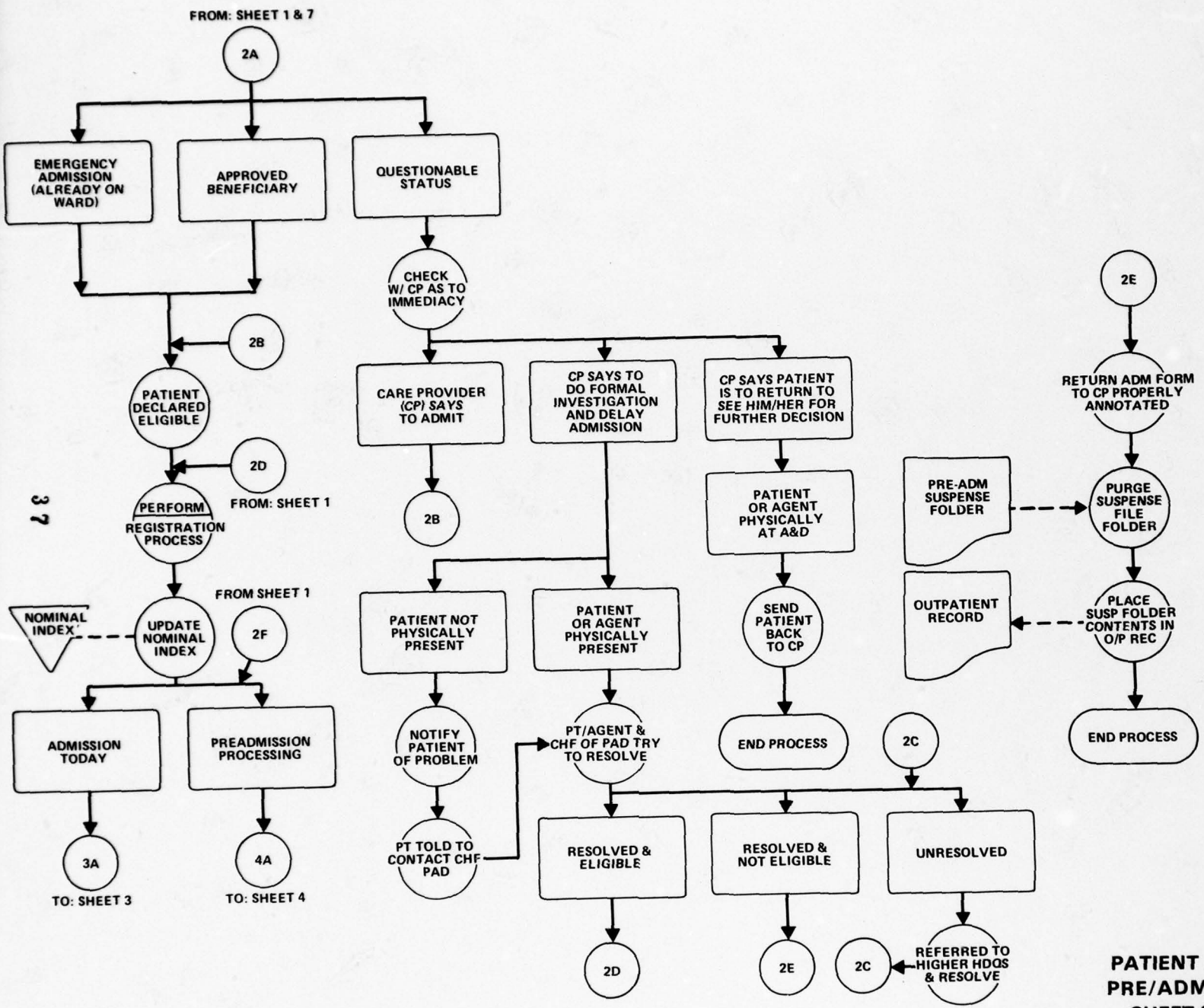
Pages 33 through 35 intentionally left blank.

Pages 33 through 35 intentionally left blank.

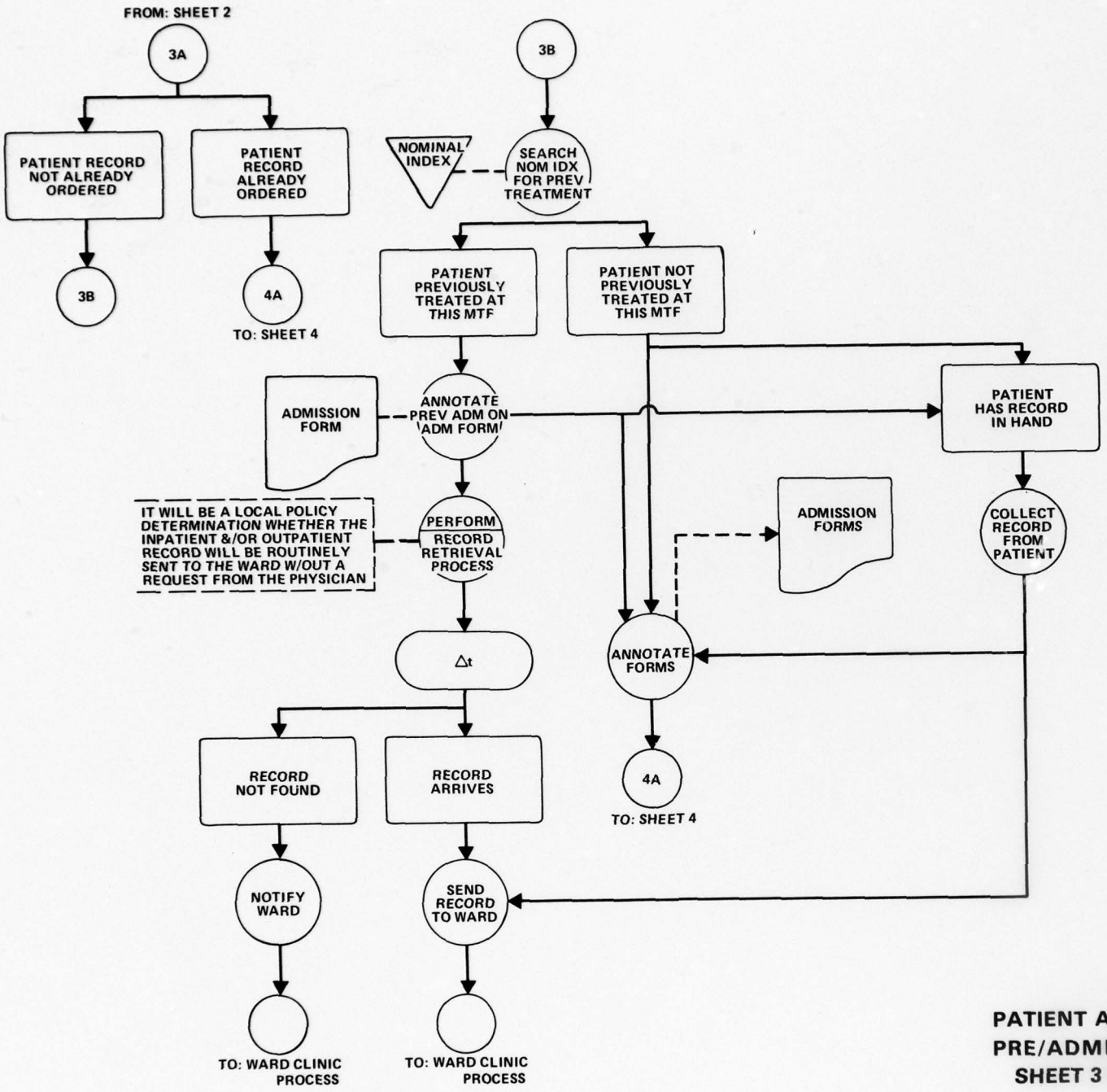
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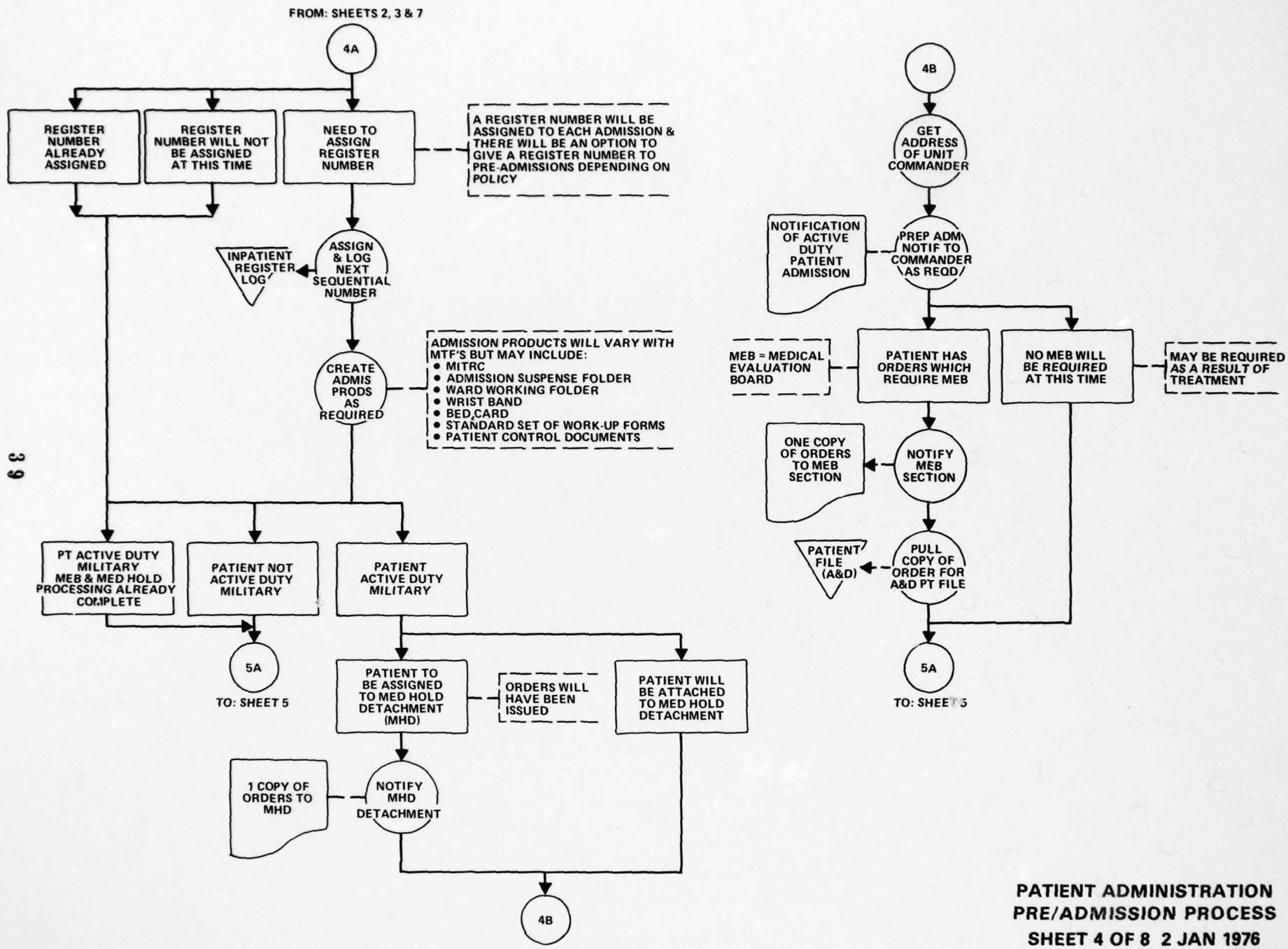
PATIENT ADMINISTRATION
PRE/ADMISSION PROCESS
SHEET 1 OF 8 2 JAN 1976



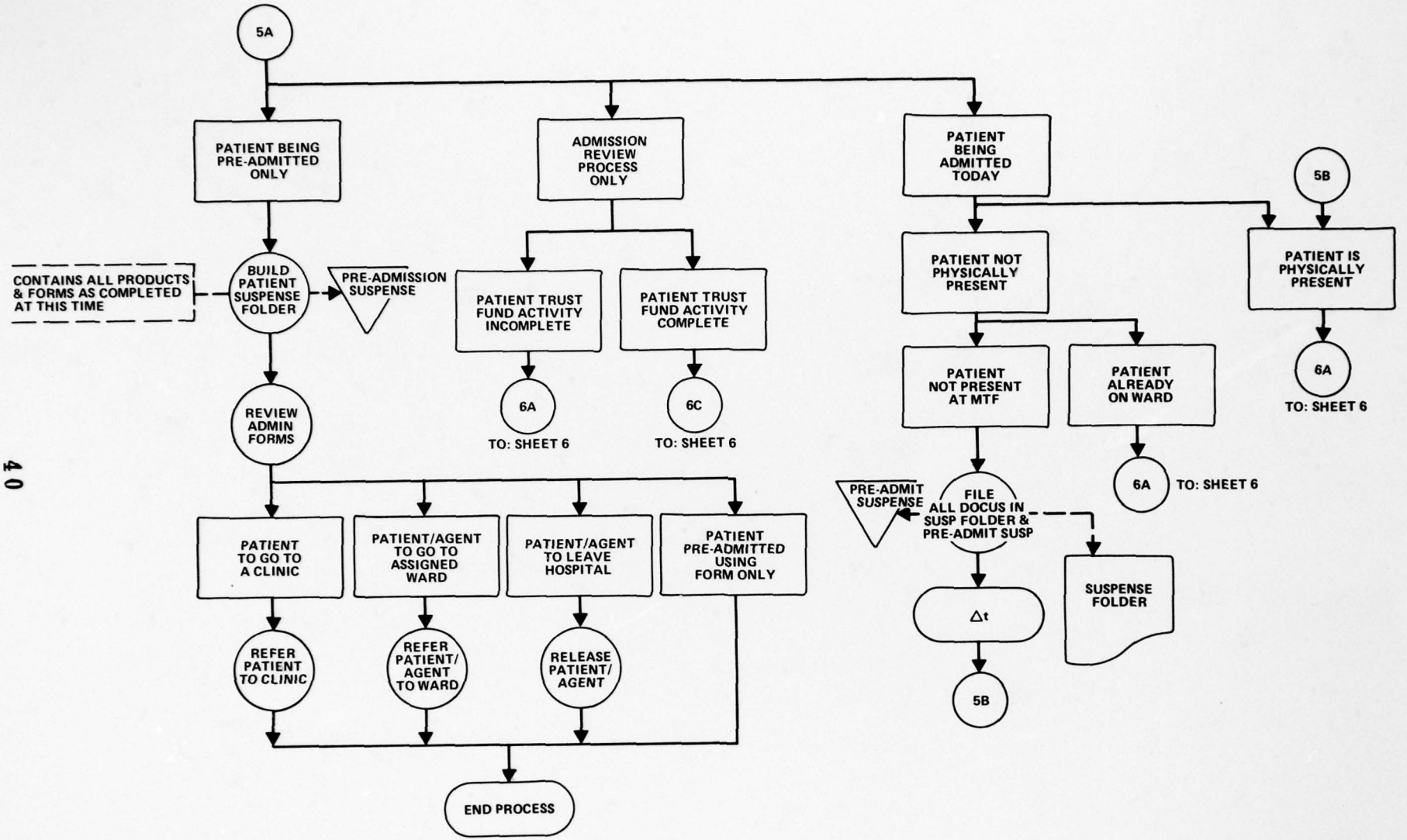
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PRE/ADMISSION PROCESS
SHEET 2 OF 8 2 JAN 1976



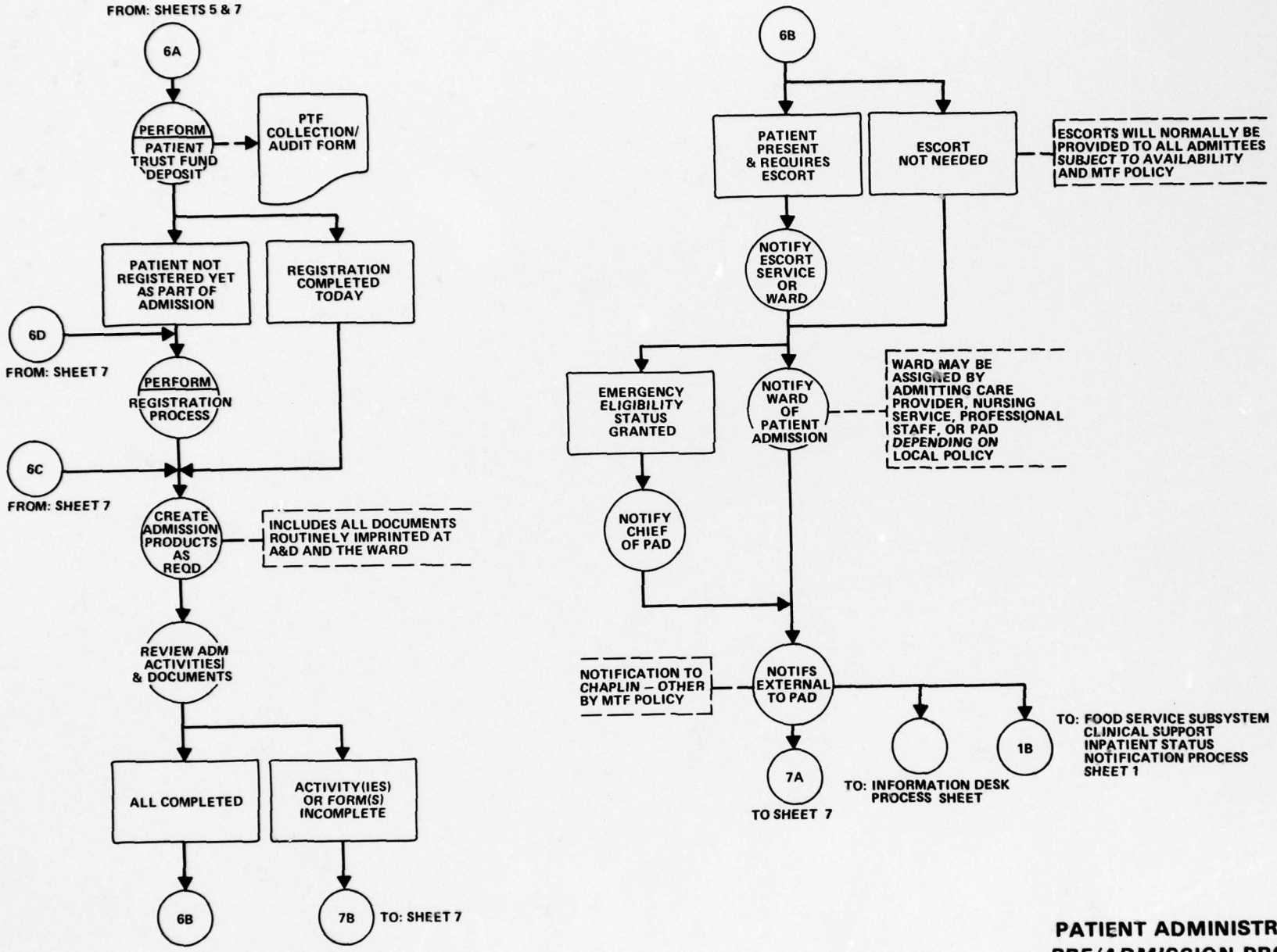
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PRE/ADMISSION PROCESS
SHEET 3 OF 8 2 JAN 1976



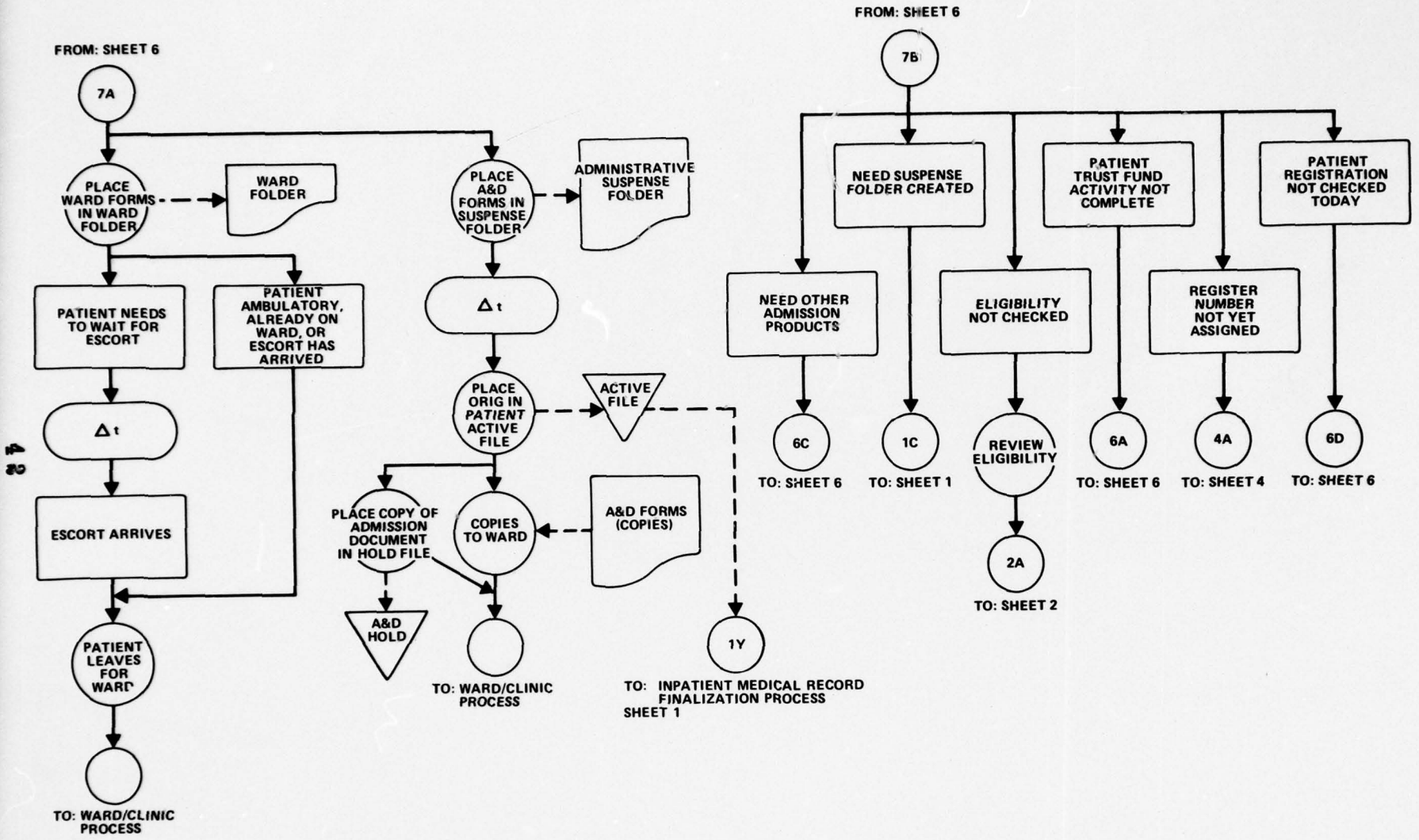
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PRE/ADMISSION PROCESS
SHEET 4 OF 8 2 JAN 1976



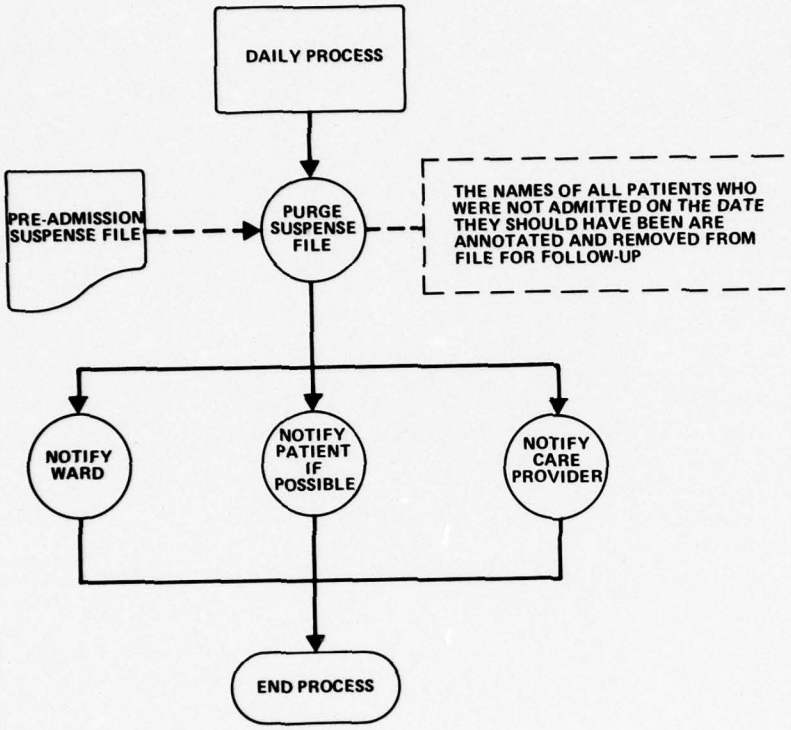
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PRE/ADMISSION PROCESS
SHEET 5 OF 8 2 JAN 1976



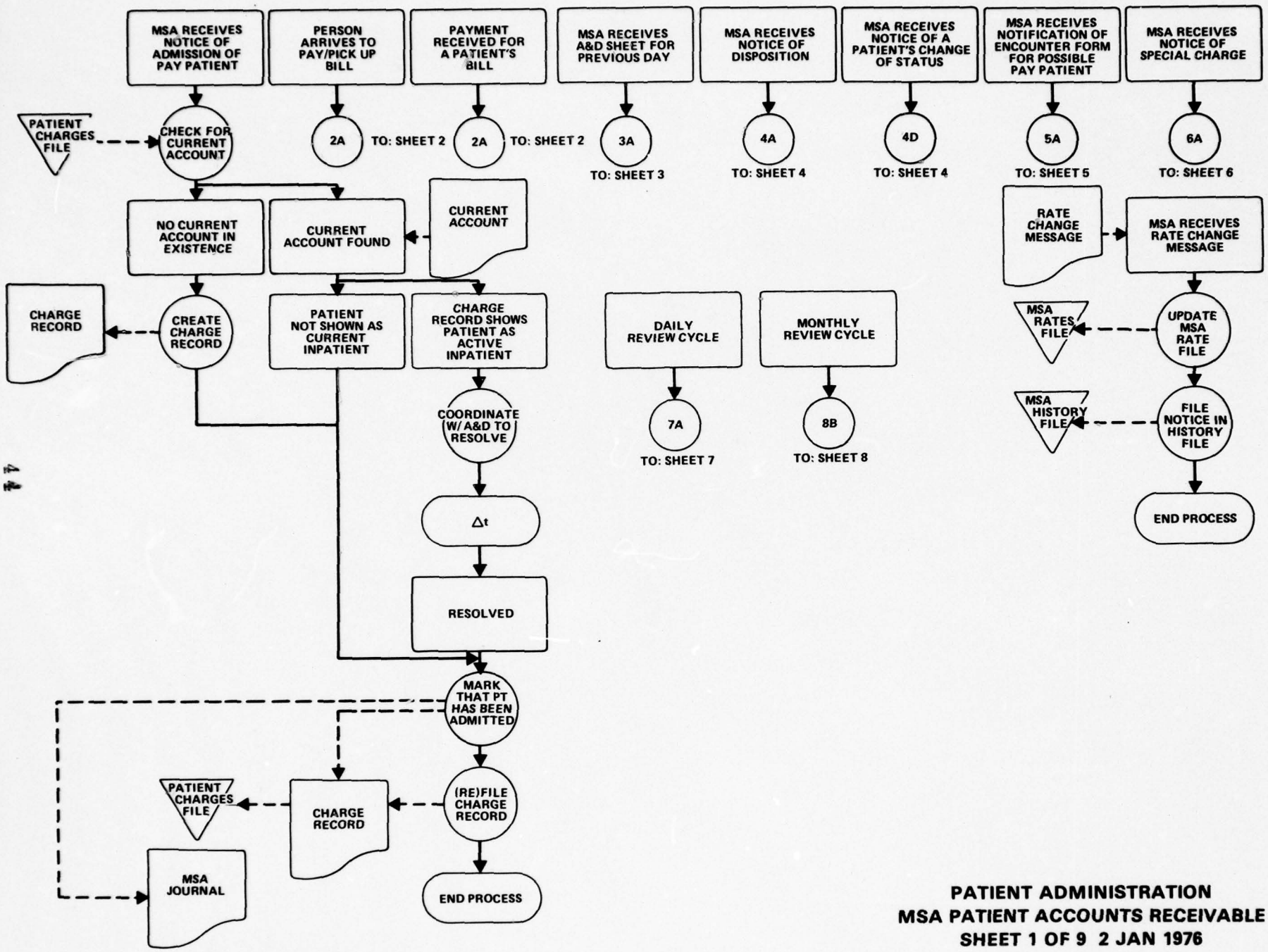
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PRE/ADMISSION PROCESS
SHEET 6 OF 8 2 JAN 1976



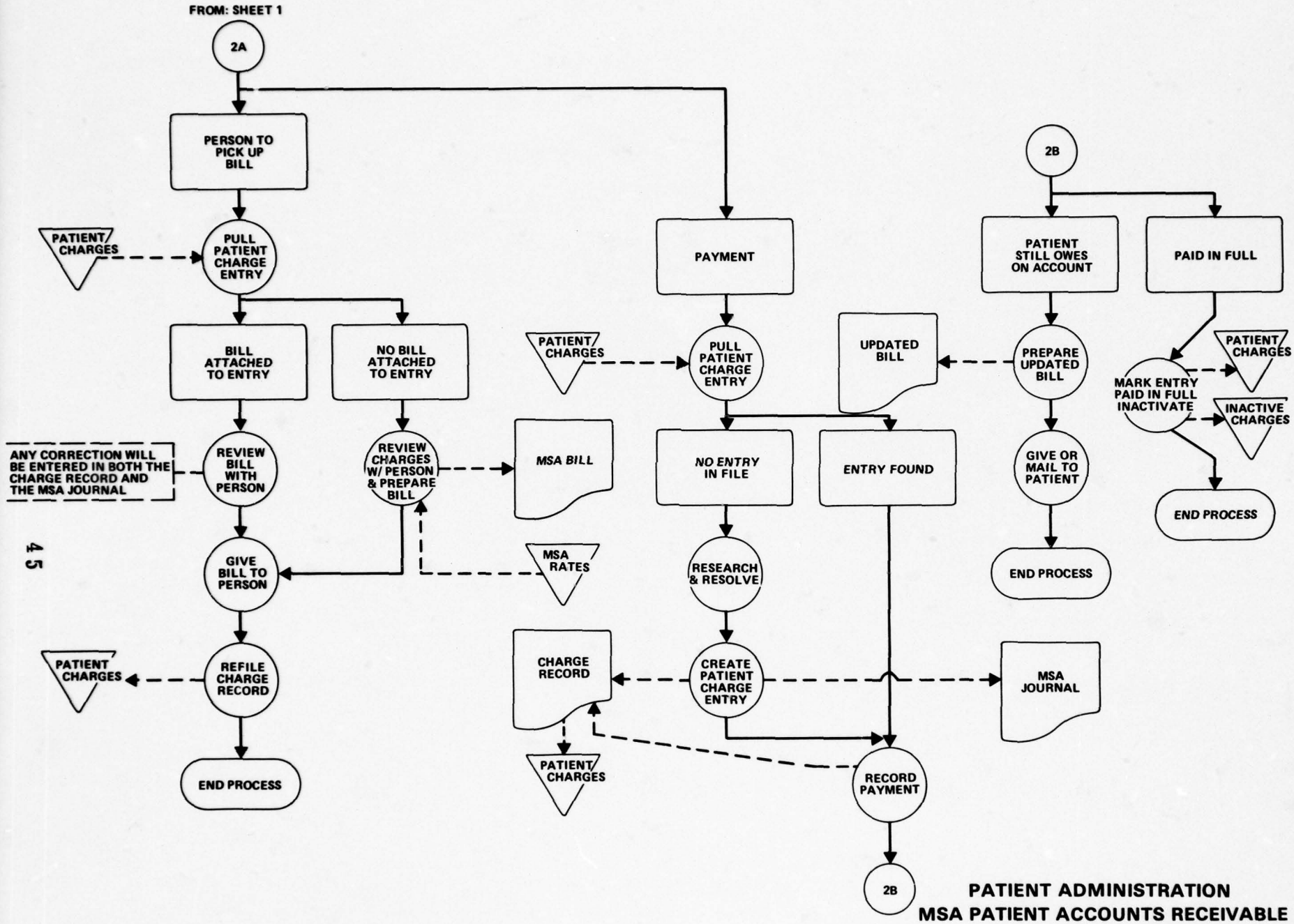
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PRE/ADMISSION PROCESS
SHEET 7 OF 8 2 JAN 1976



PATIENT ADMINISTRATION
PRE/ADMISSION PROCESS
SHEET 8 OF 8 2 JAN 1976

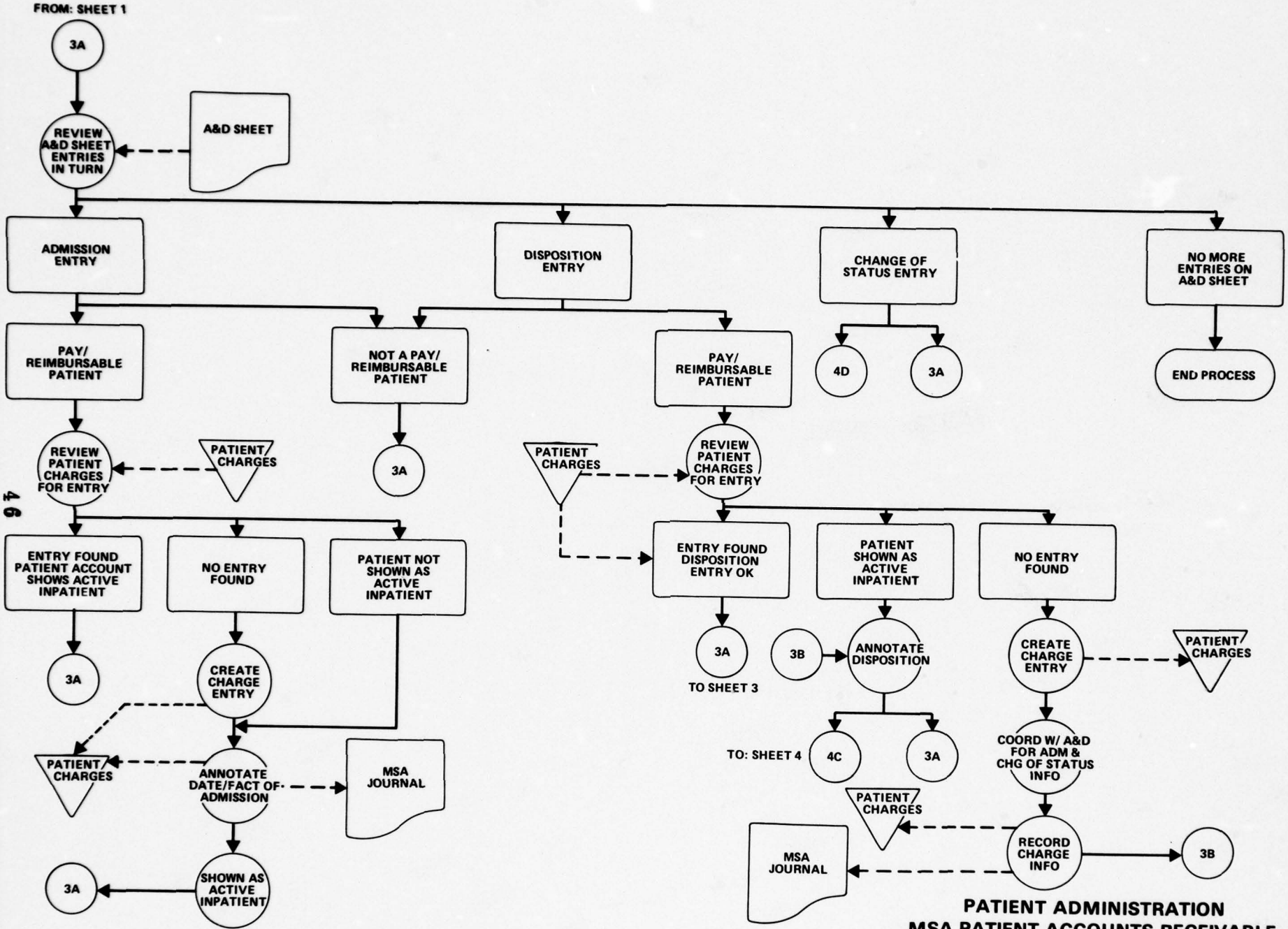


PATIENT ADMINISTRATION
MSA PATIENT ACCOUNTS RECEIVABLE
SHEET 1 OF 9 2 JAN 1976

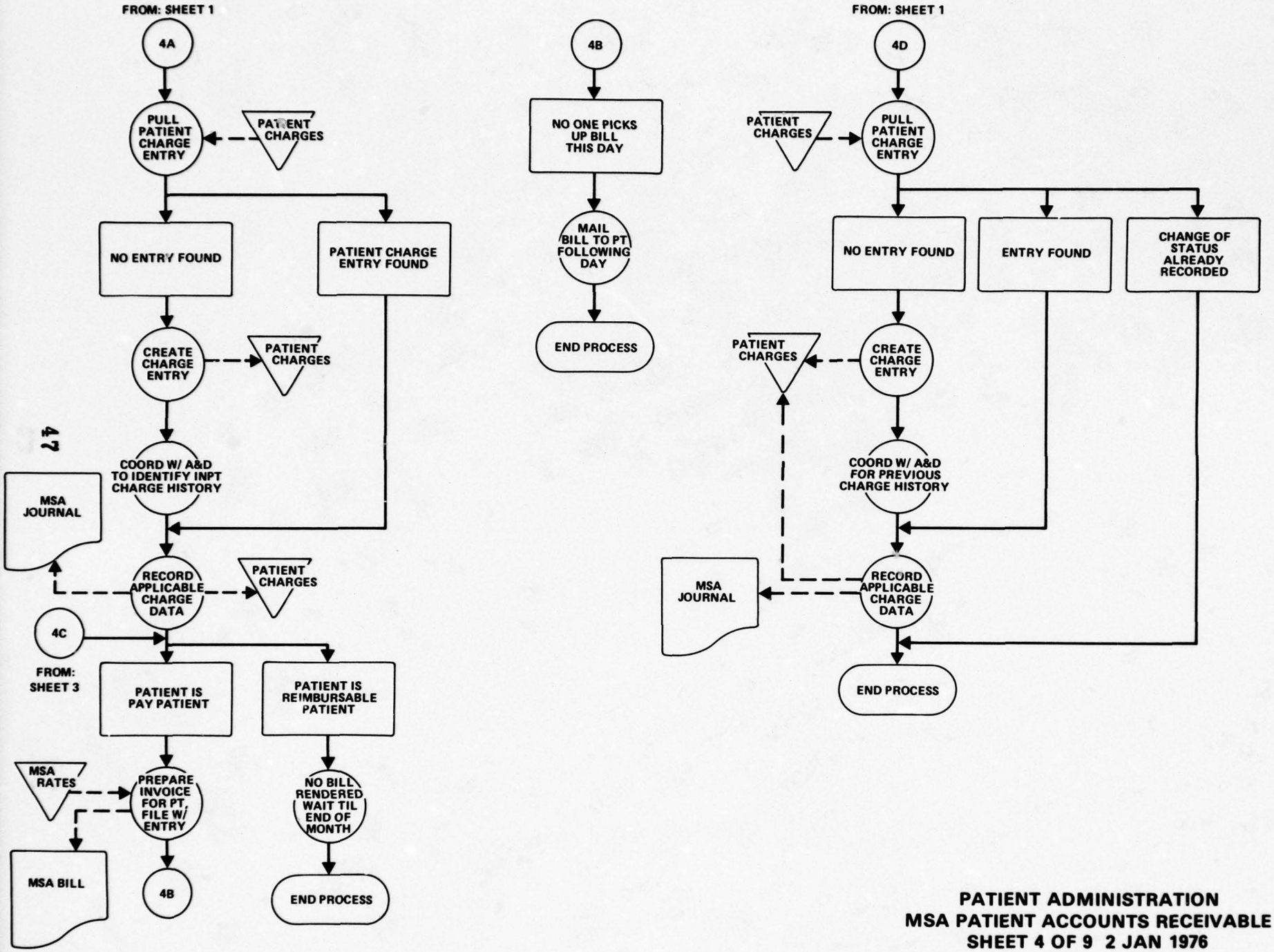


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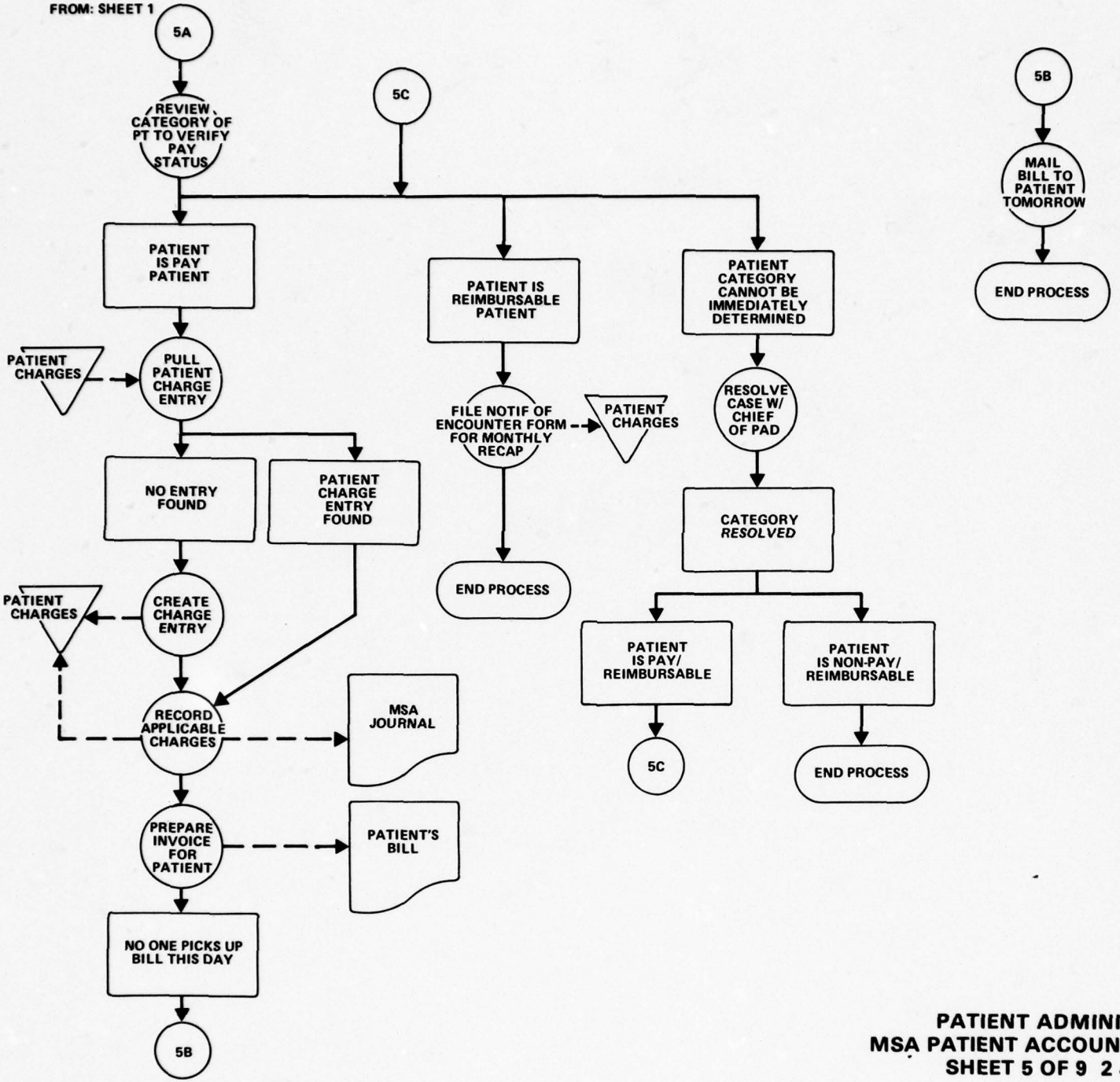
PATIENT ADMINISTRATION
MSA PATIENT ACCOUNTS RECEIVABLE
SHEET 2 OF 9 2 JAN 1976



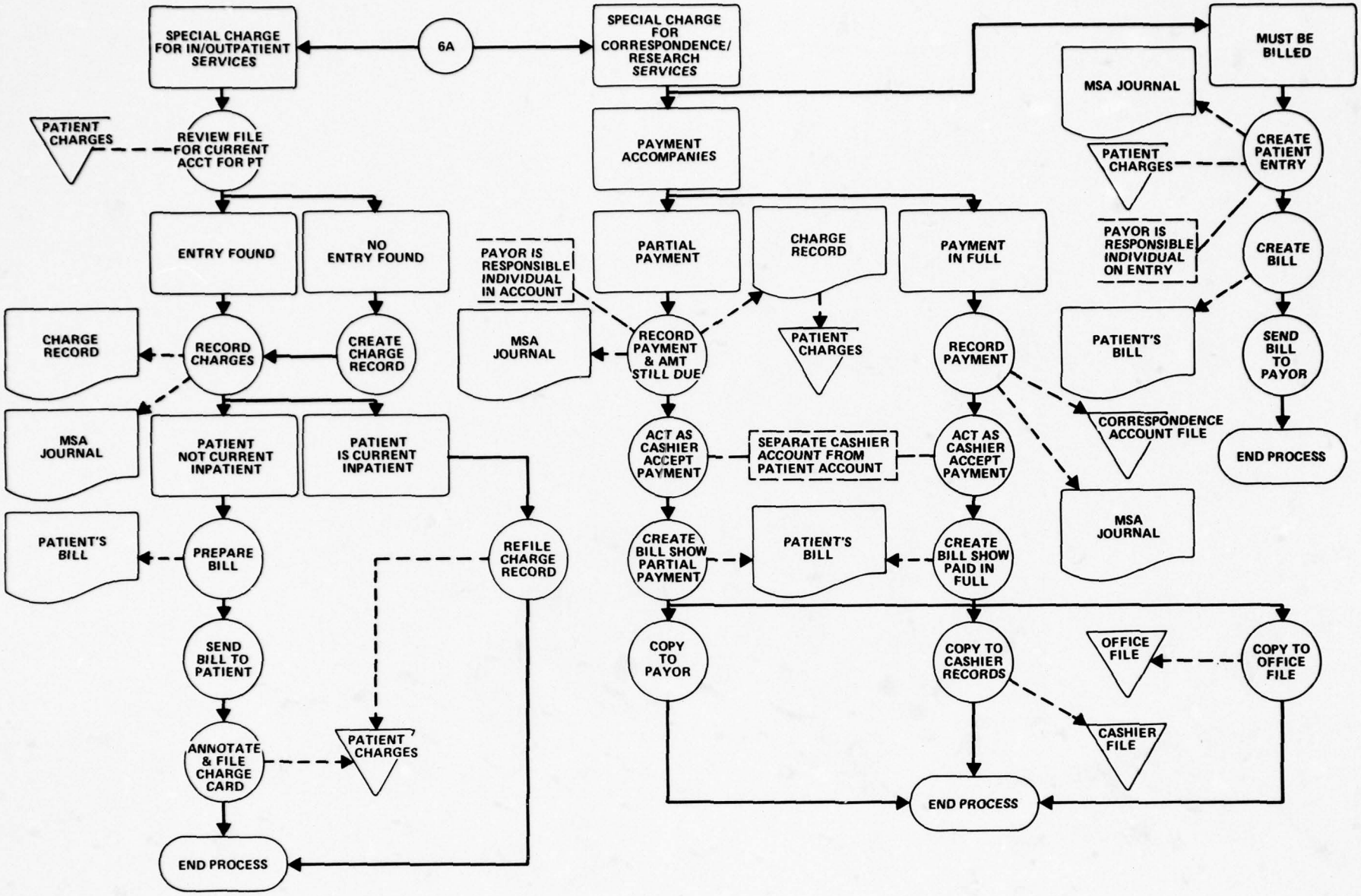
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SHEET 3 OF 9 2 JAN 1976



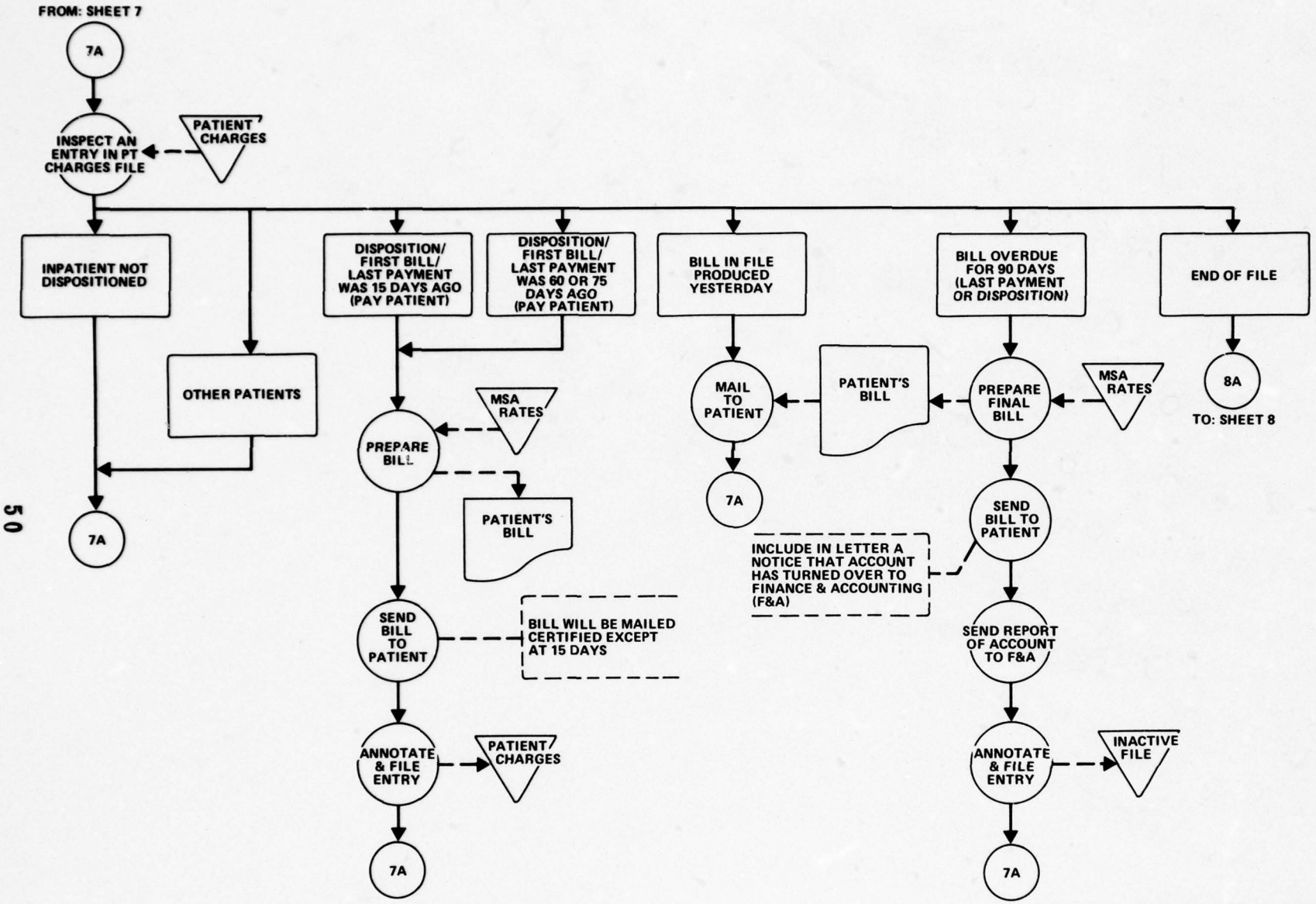
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SHEET 4 OF 9 2 JAN 1976



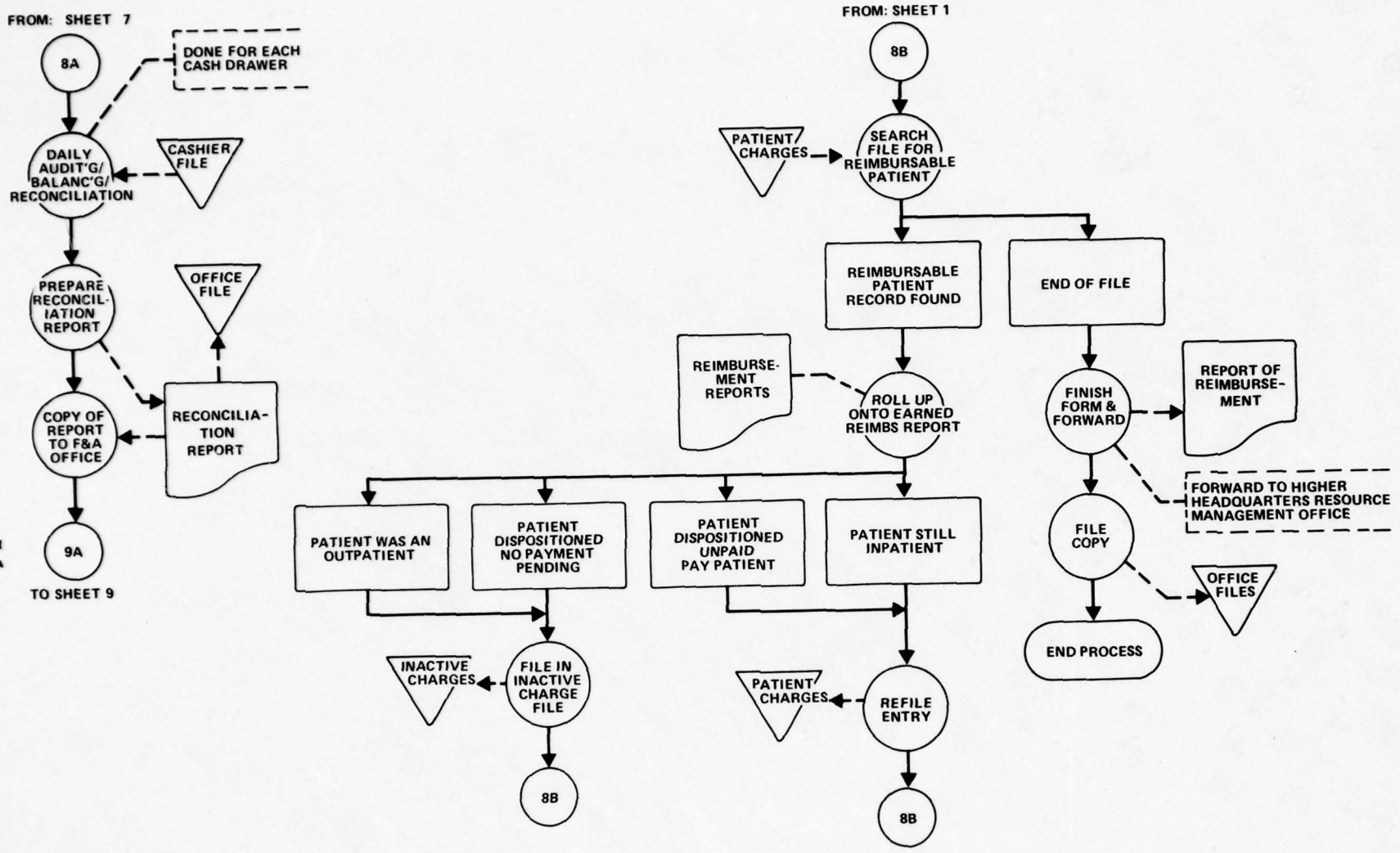
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SHEET 5 OF 9 2 JAN 1976



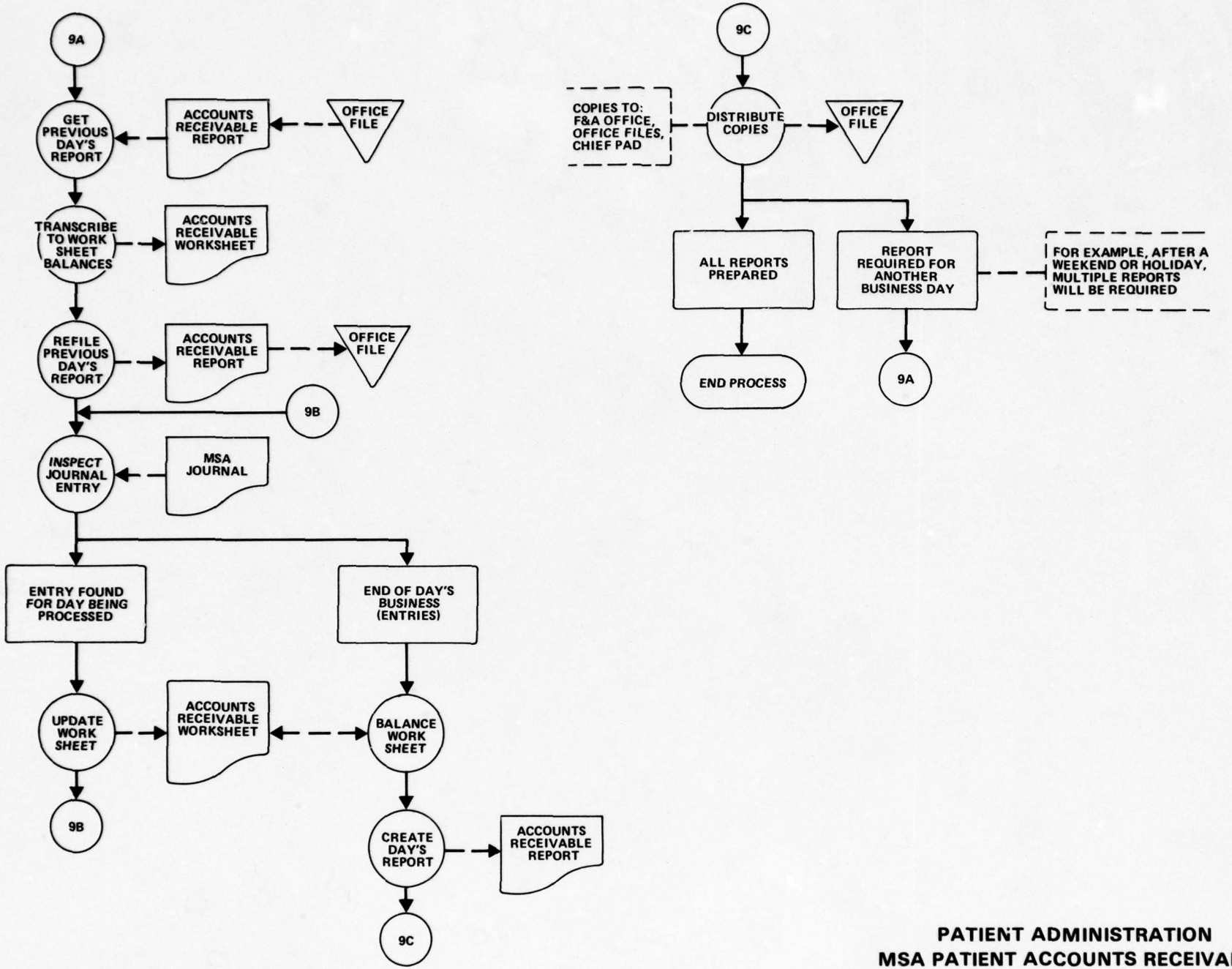
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SHEET 6 OF 9 2 JAN 1976



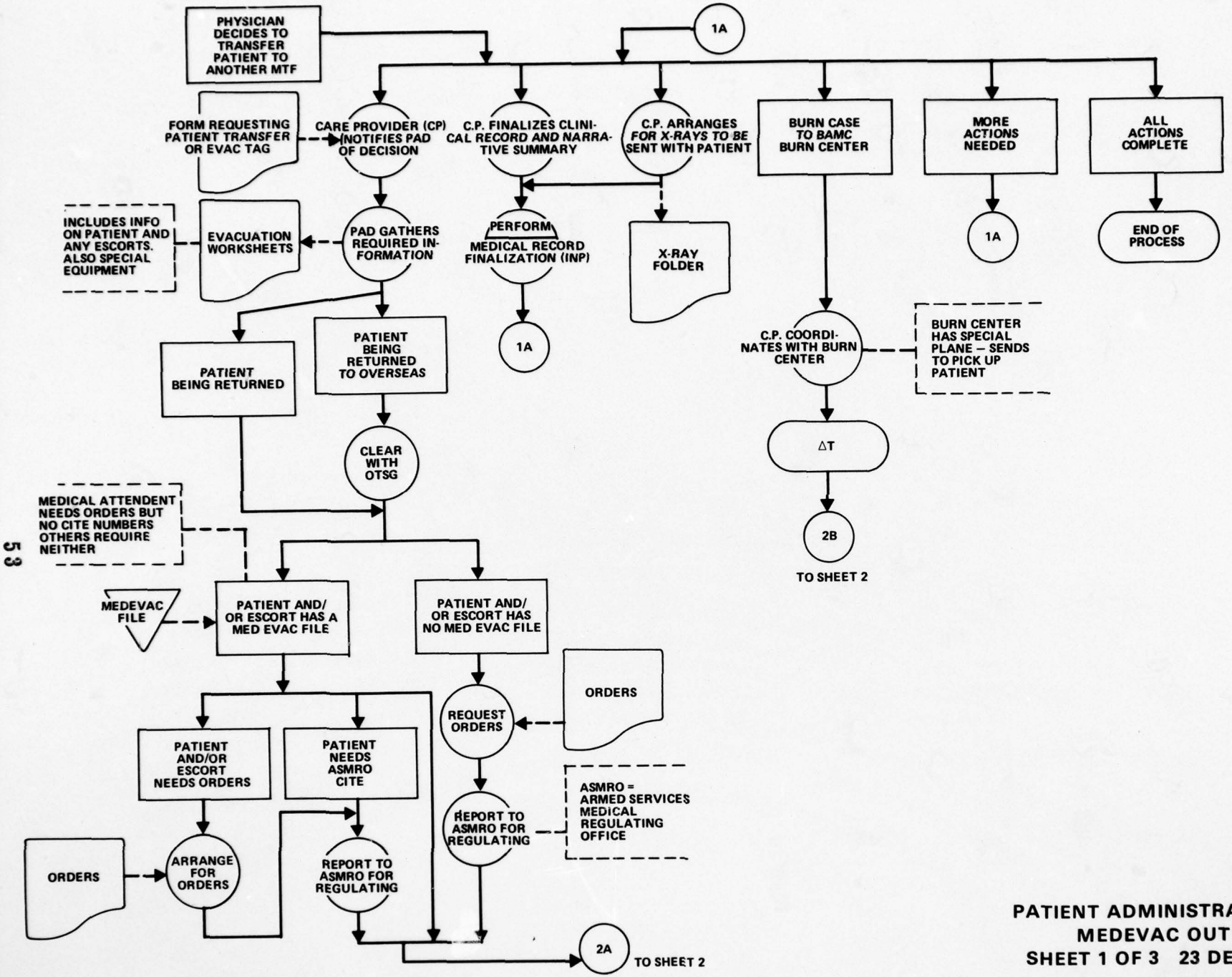
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SHEET 7 OF 9 2 JAN 1976



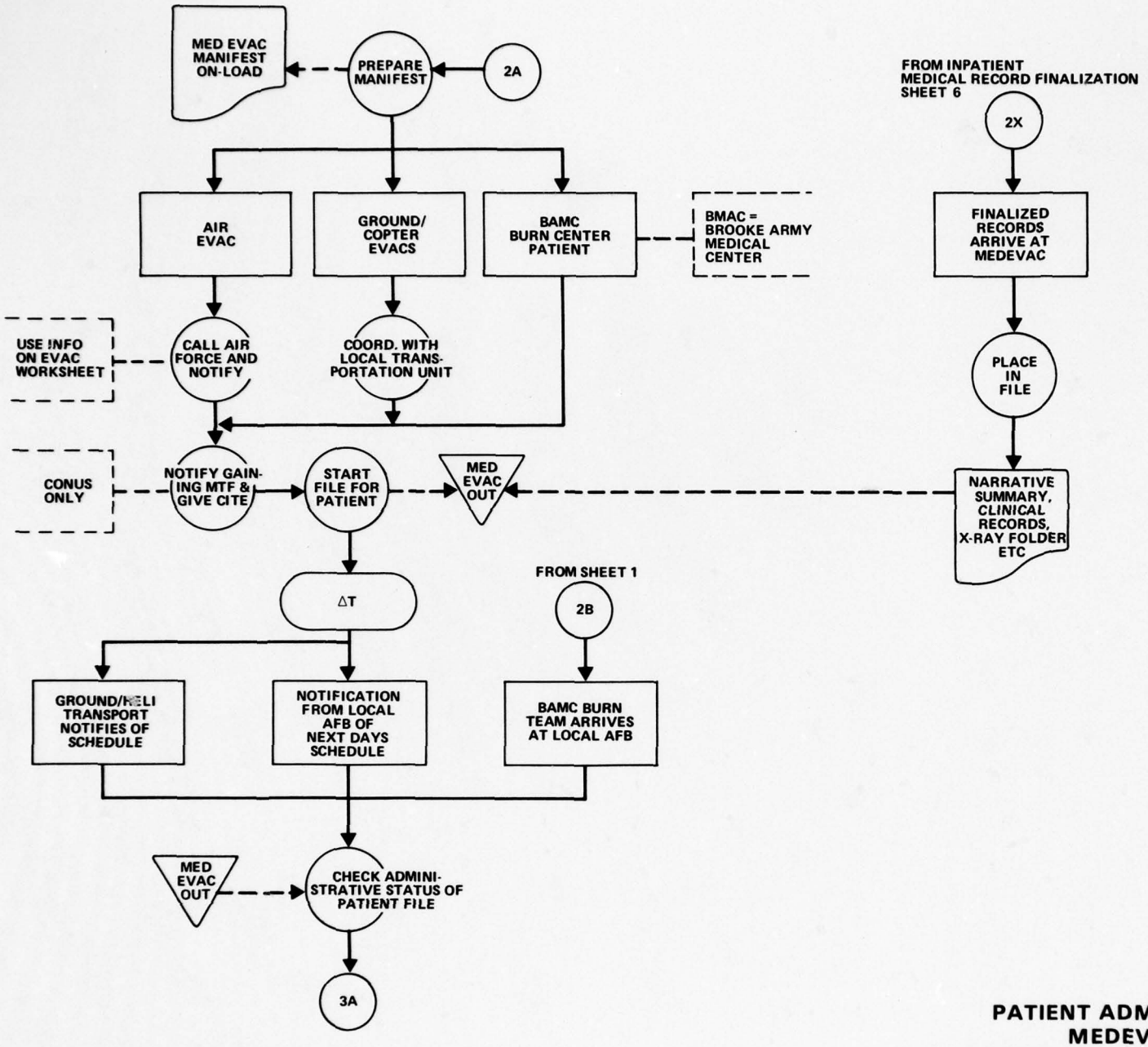
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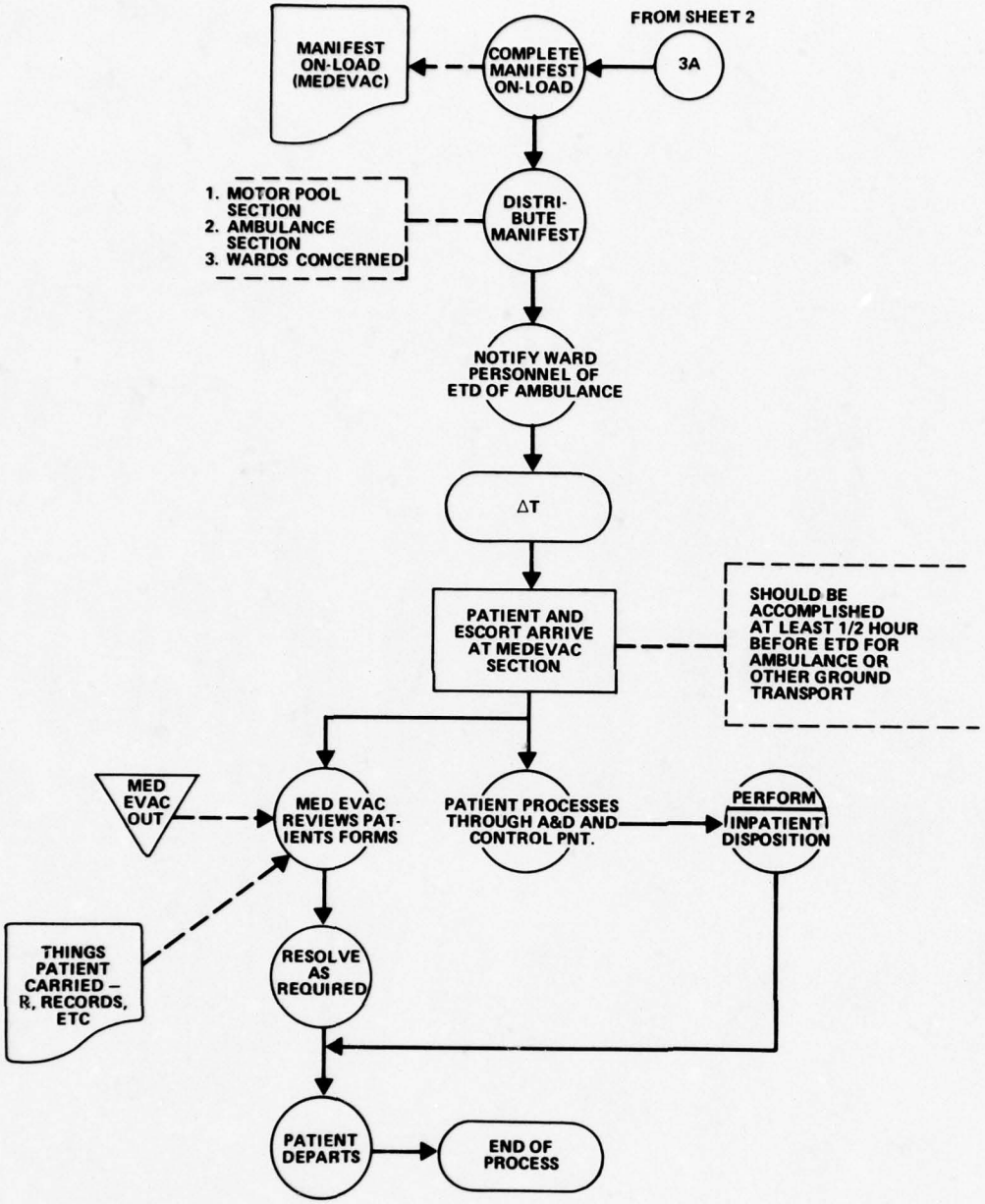
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SHEET 9 OF 9 2 JAN 1976



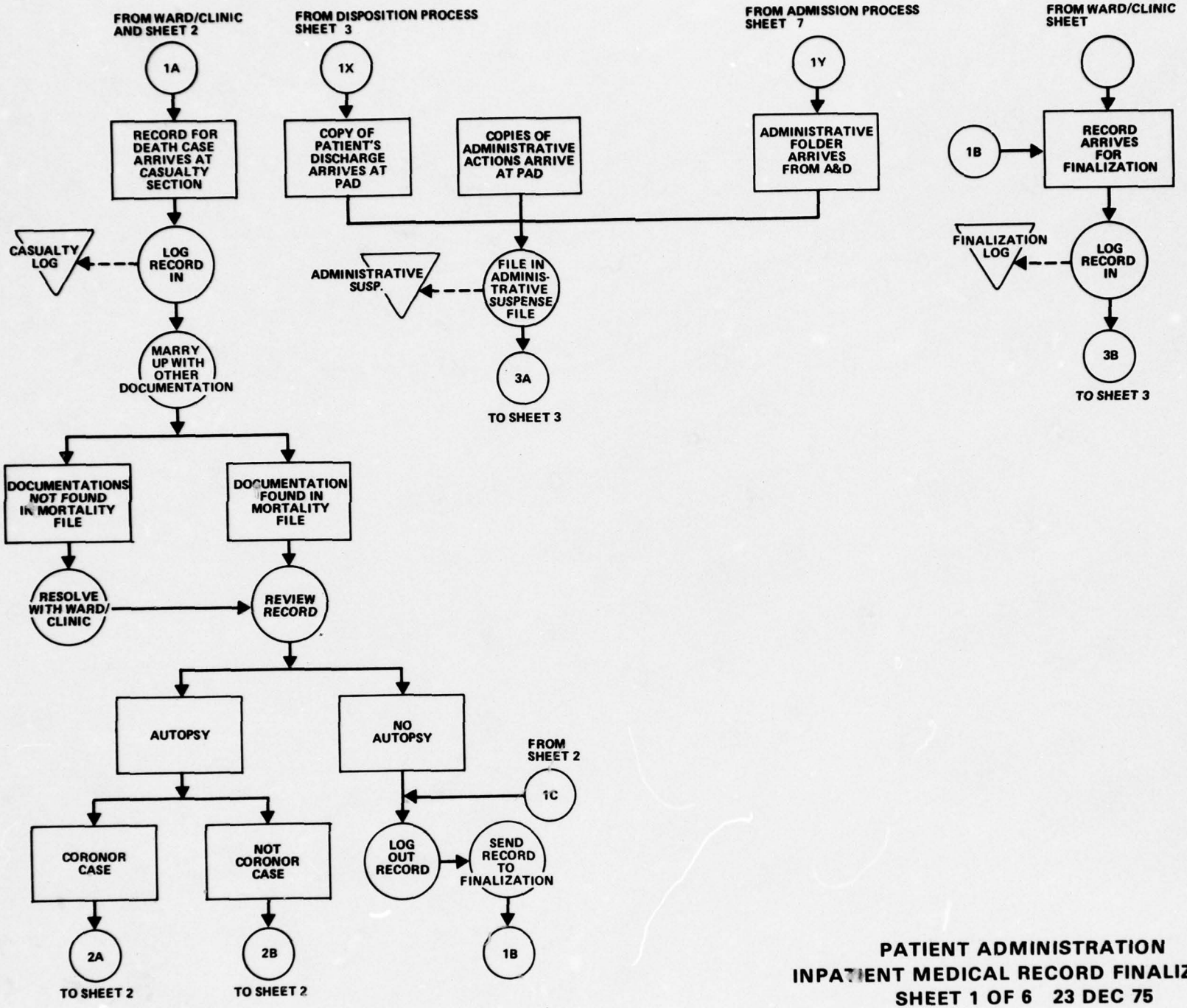
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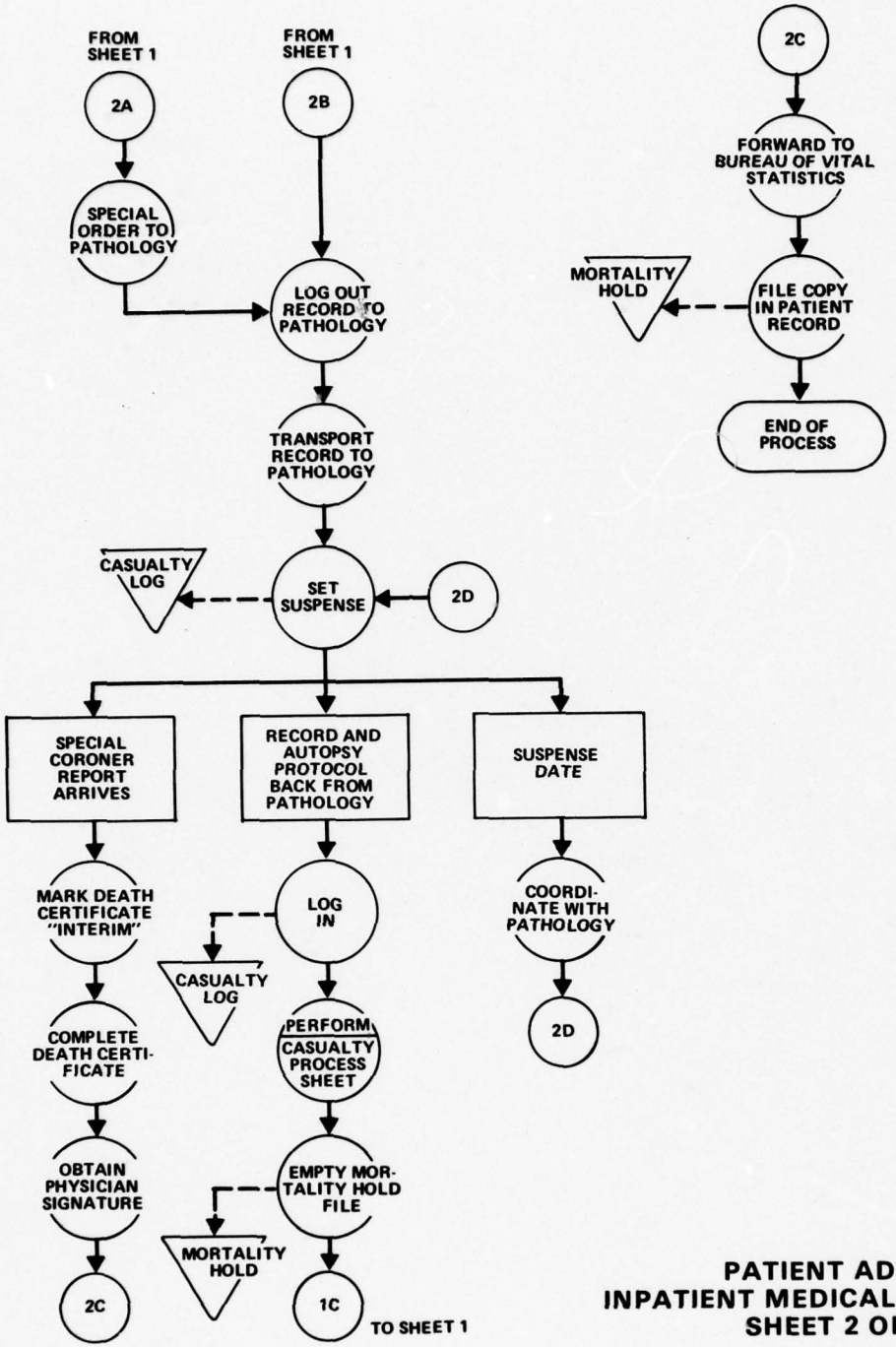
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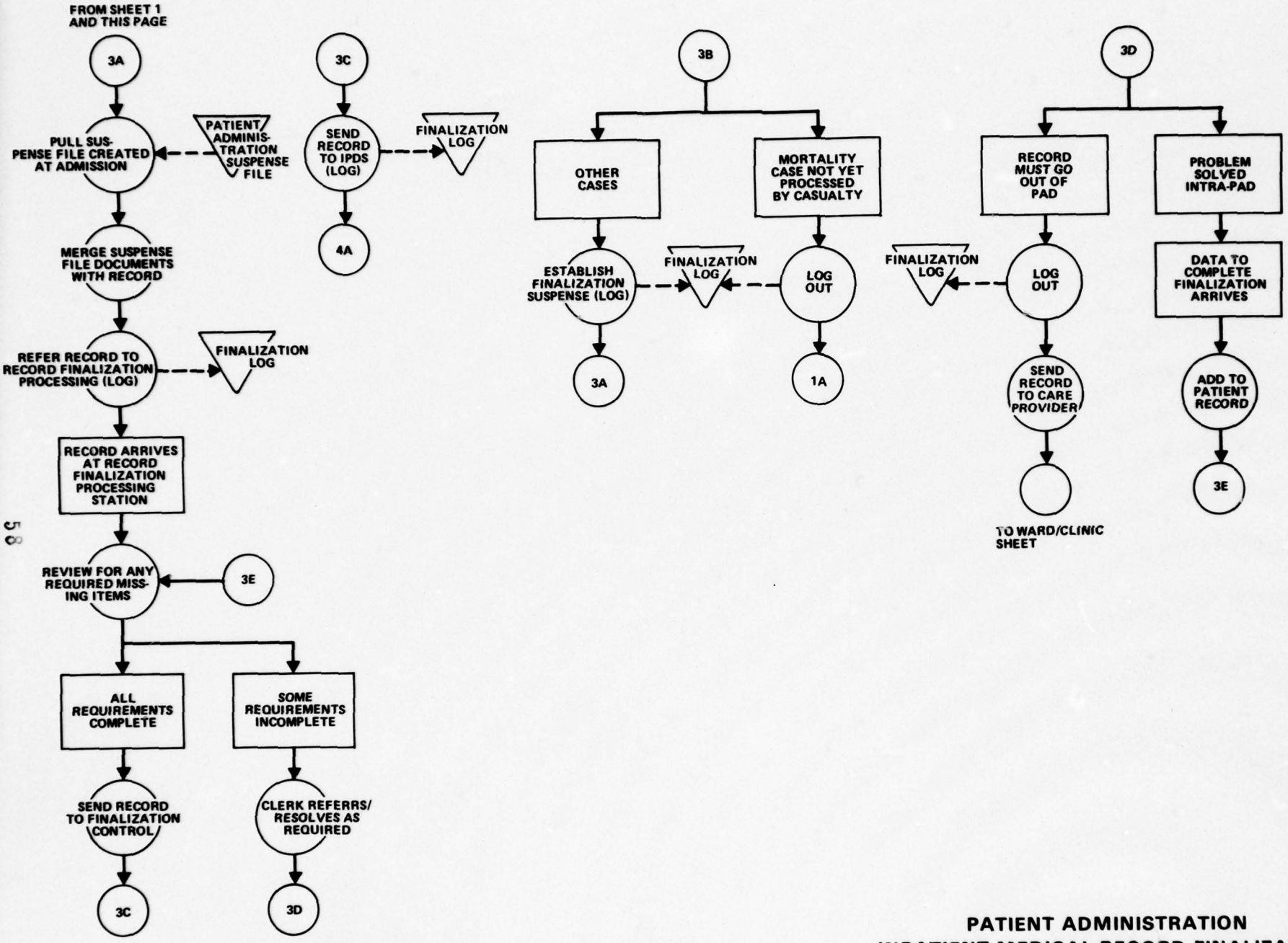
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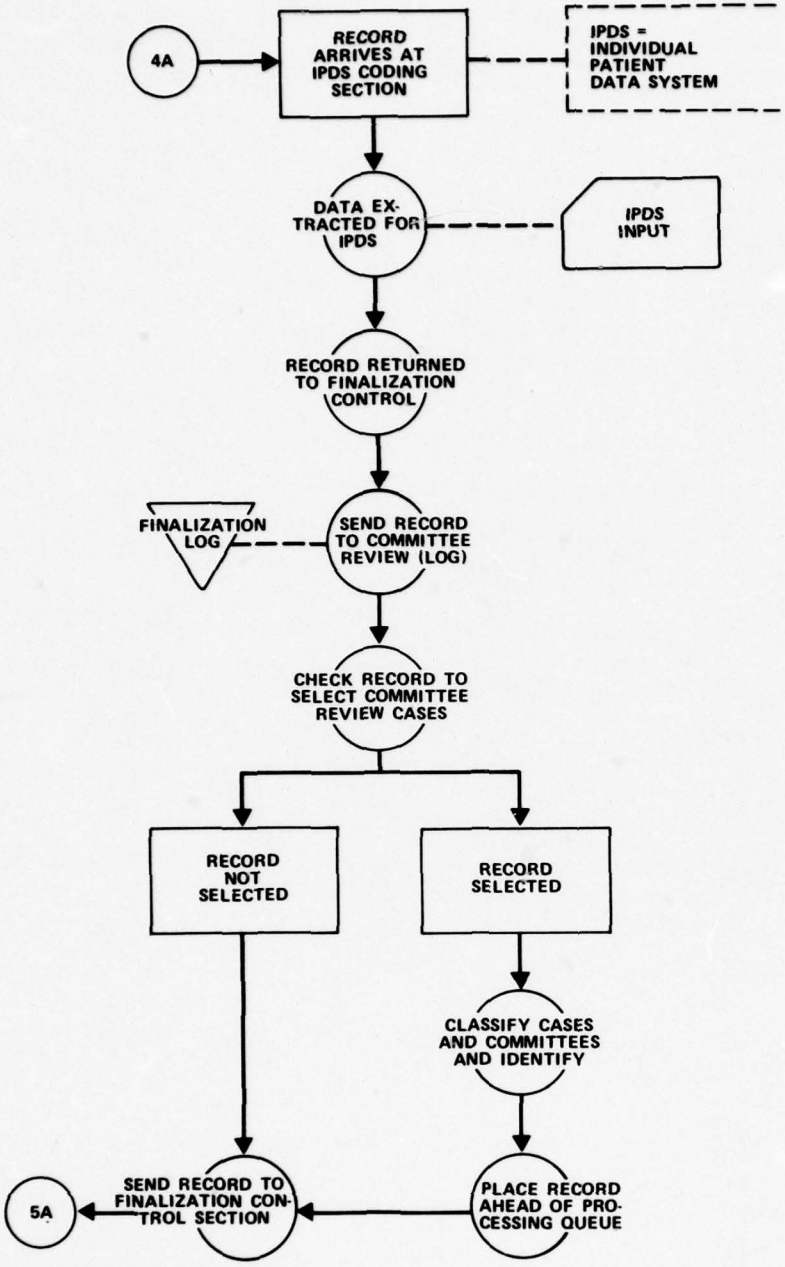
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INPATIENT MEDICAL RECORD FINALIZATION
SHEET 1 OF 6 23 DEC 75



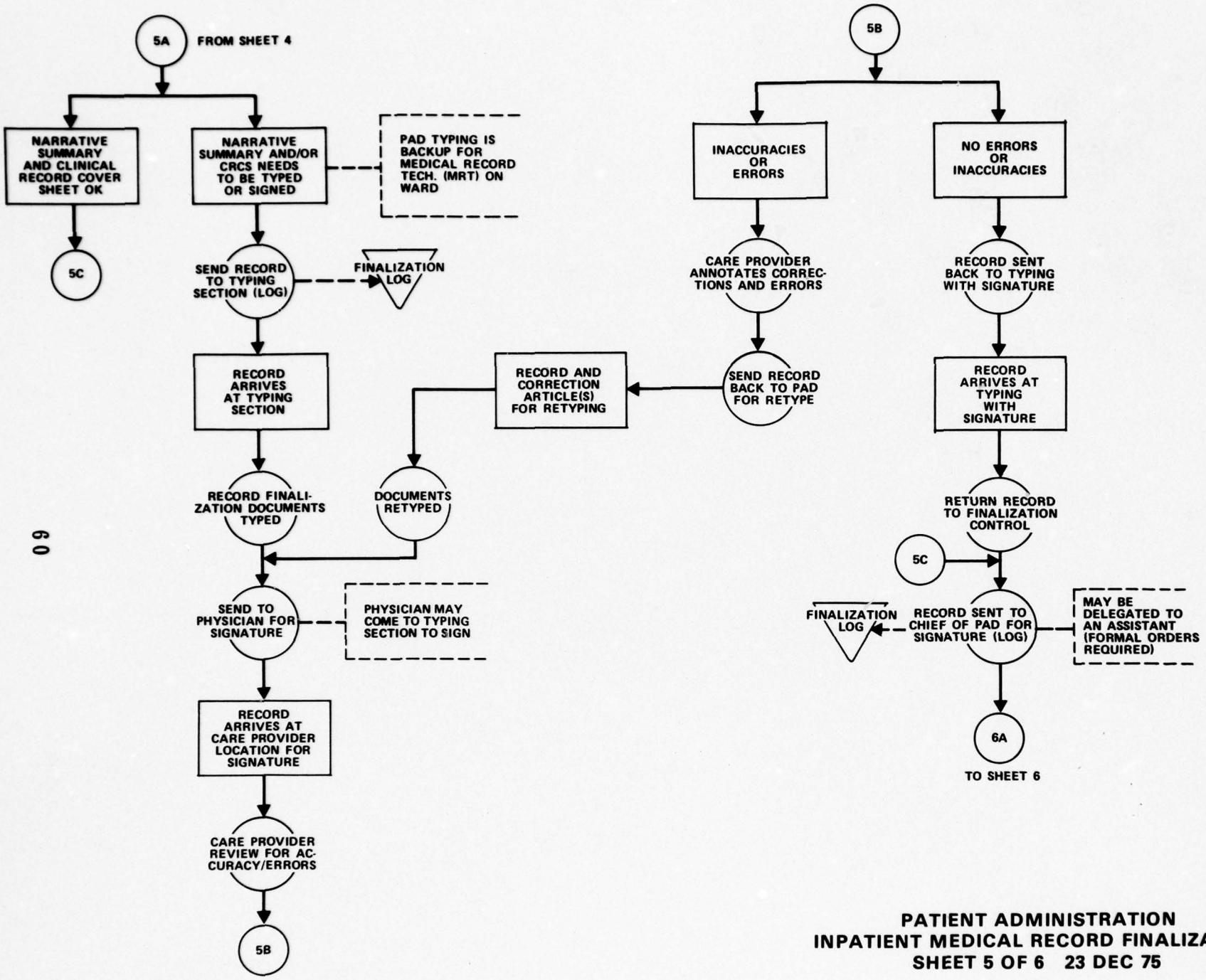
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INPATIENT MEDICAL RECORD FINALIZATION
SHEET 2 OF 6 23 DEC 75



PATIENT ADMINISTRATION
INPATIENT MEDICAL RECORD FINALIZATION
SHEET 3 OF 6 23 DEC 75

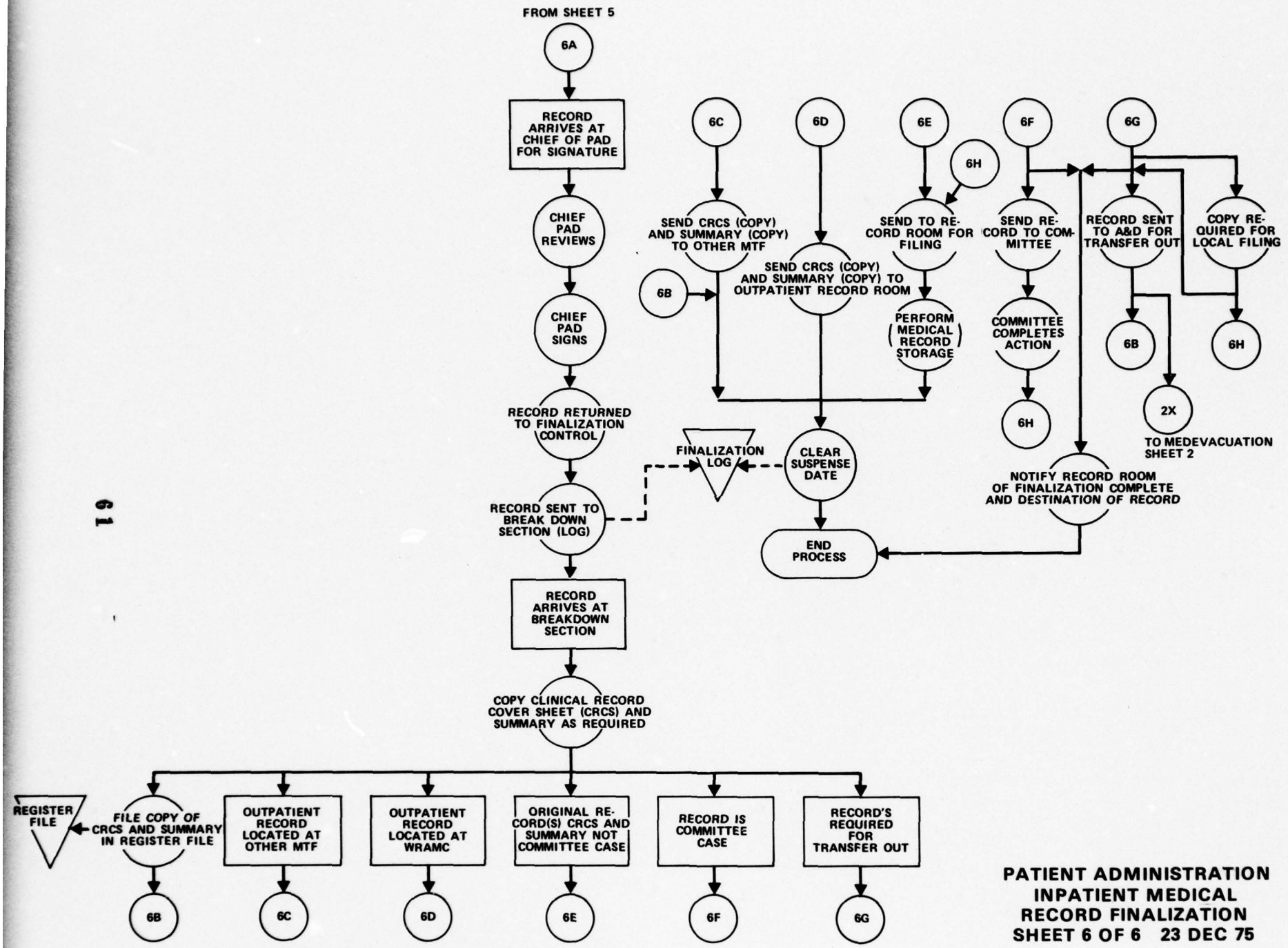


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SHEET 4 OF 6 23 DEC 75

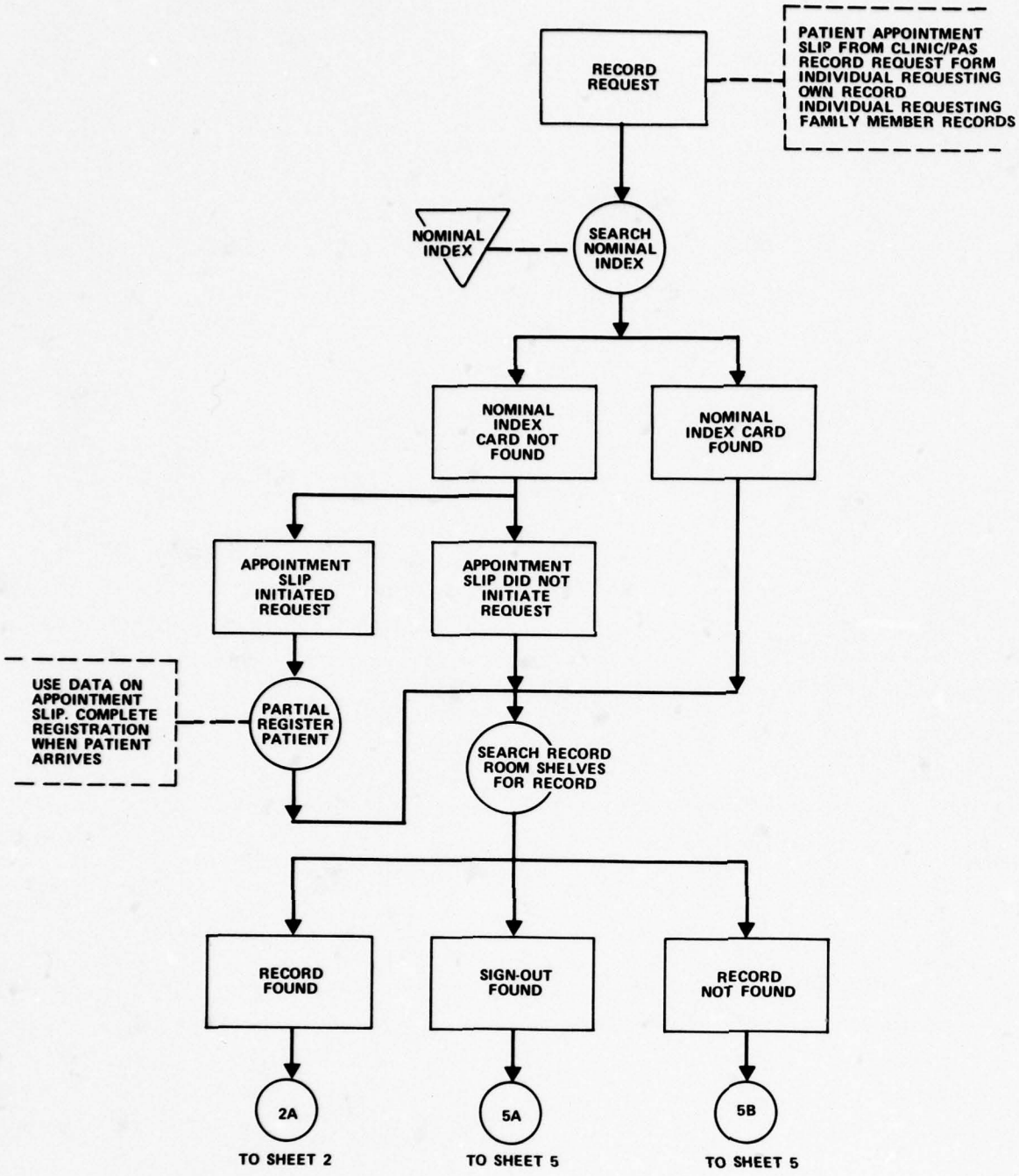


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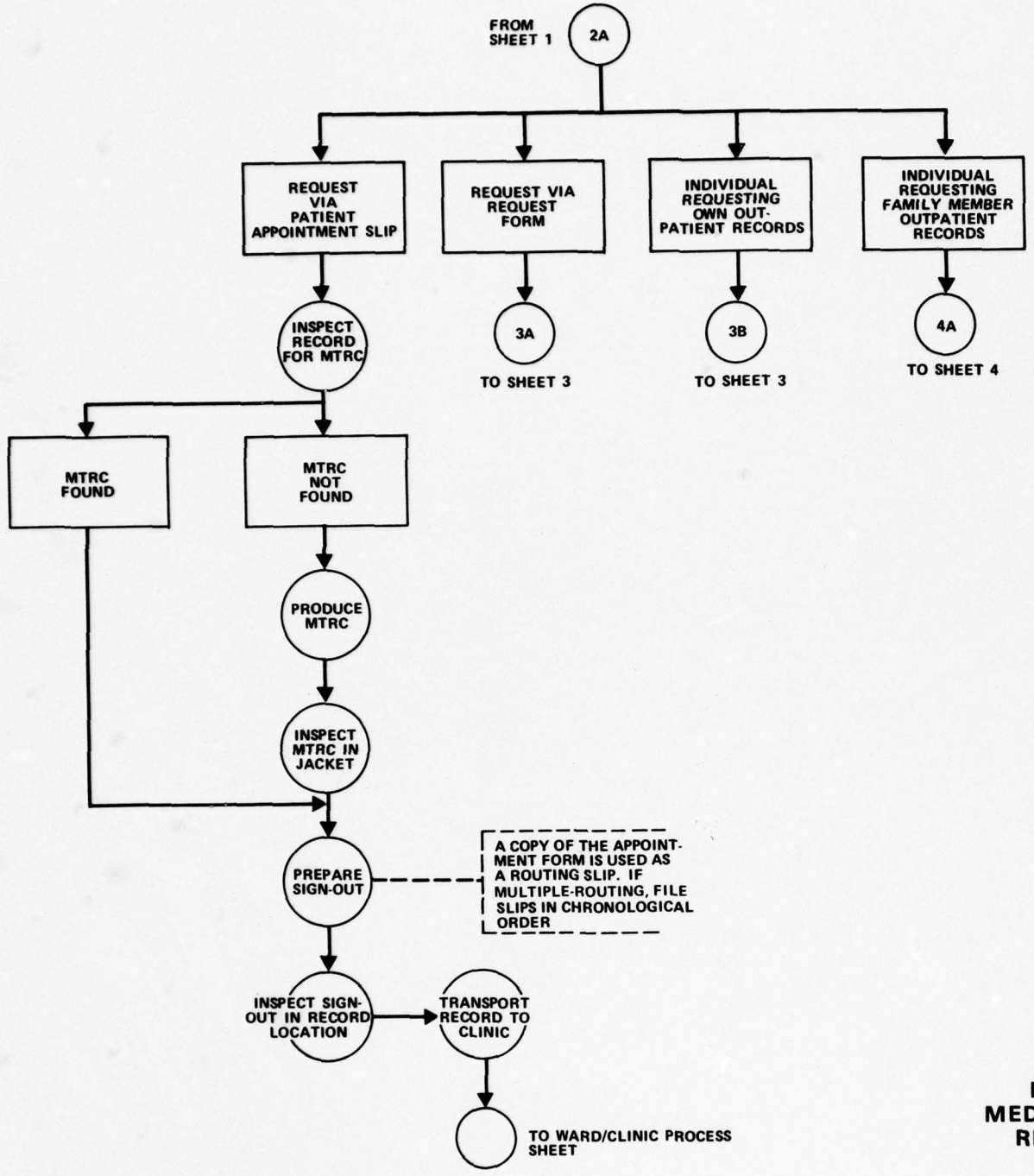
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SHEET 5 OF 6 23 DEC 75



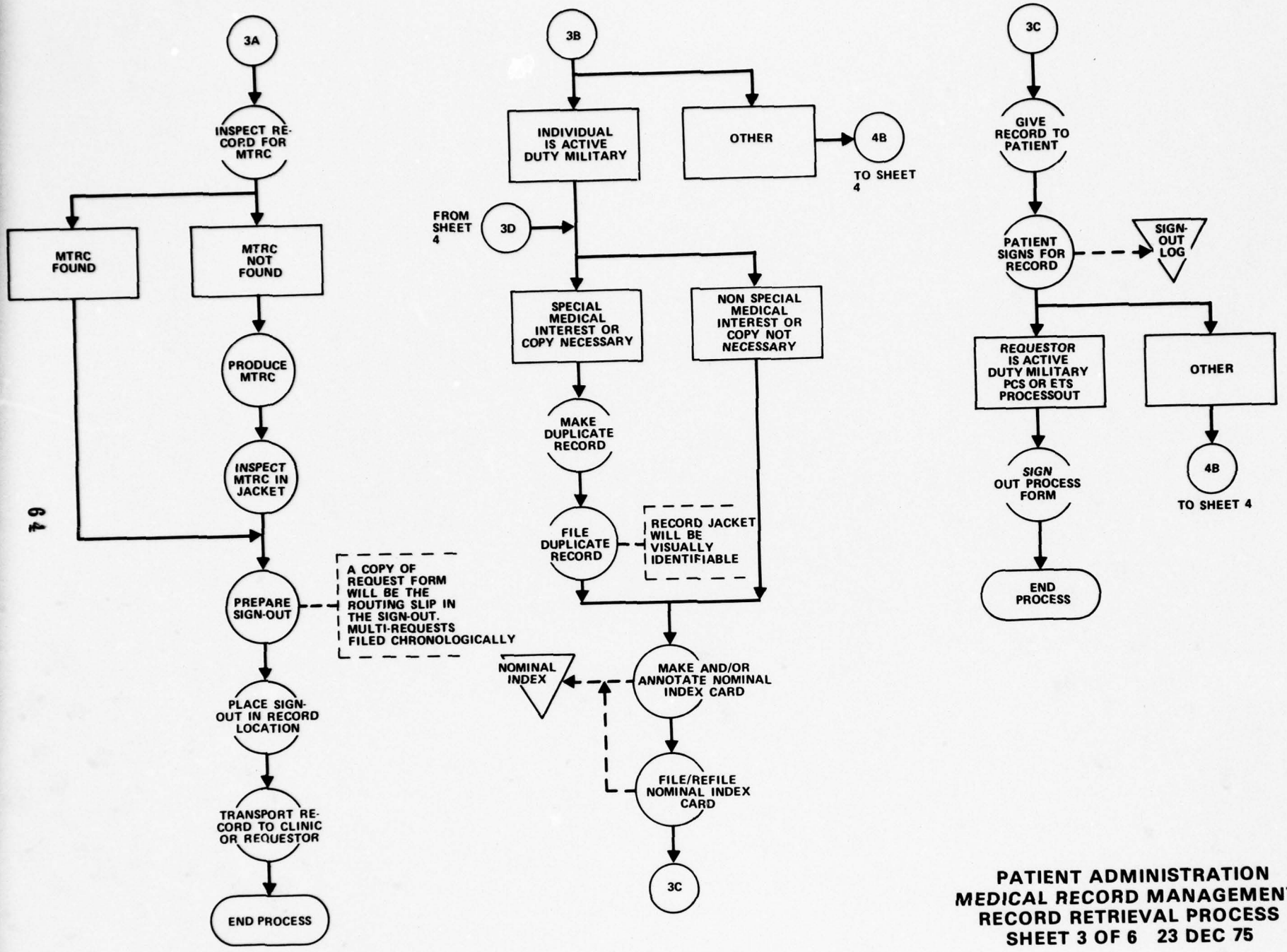
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INPATIENT MEDICAL
RECORD FINALIZATION
SHEET 6 OF 6 23 DEC 75



PATIENT ADMINISTRATION
MEDICAL RECORD MANAGEMENT
RECORD RETRIEVAL PROCESS
SHEET 1 OF 6 23 DEC 75

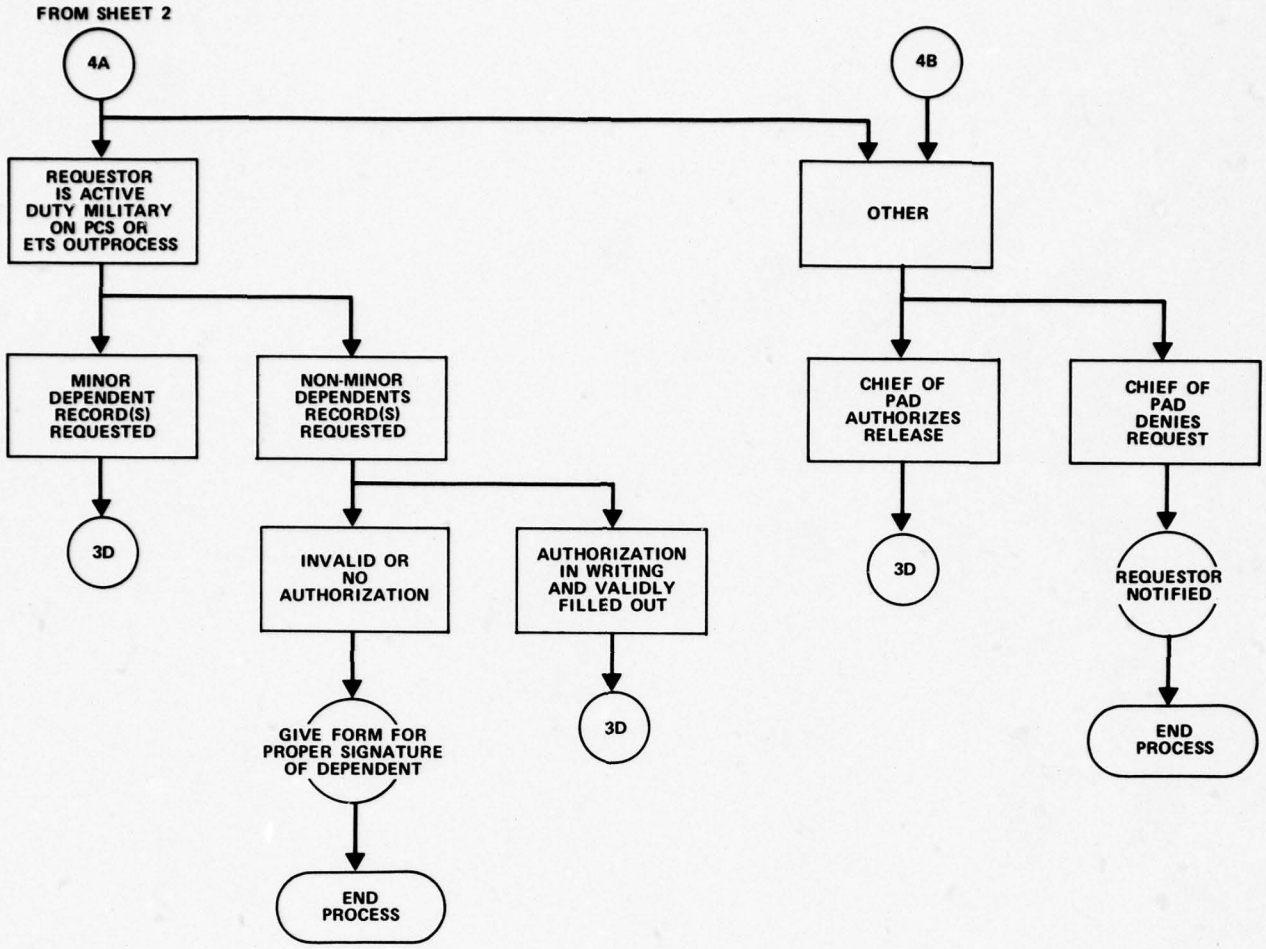


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MEDICAL RECORD MANAGEMENT
RECORD RETRIEVAL PROCESS
SHEET 2 OF 6 23 DEC 75

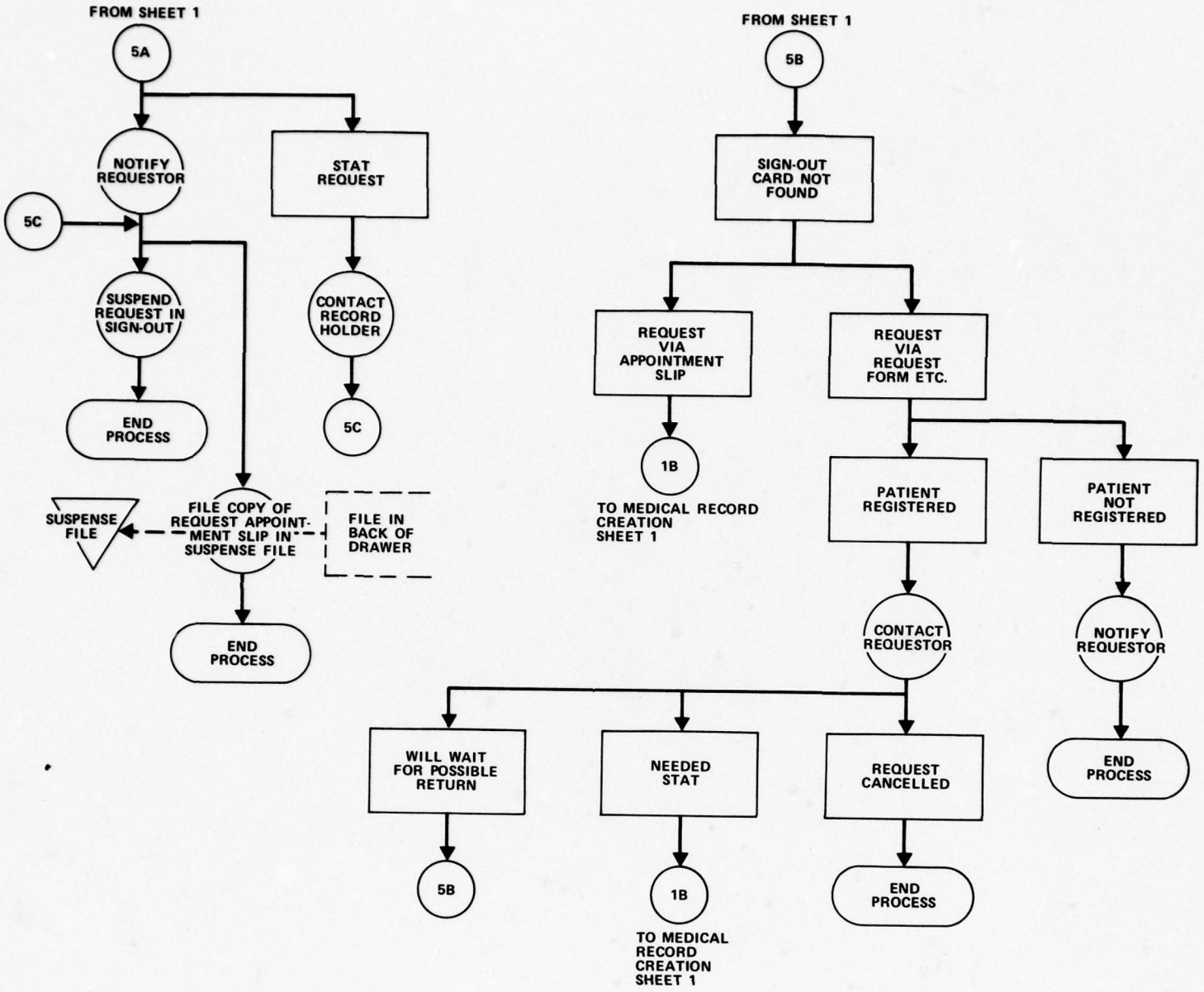


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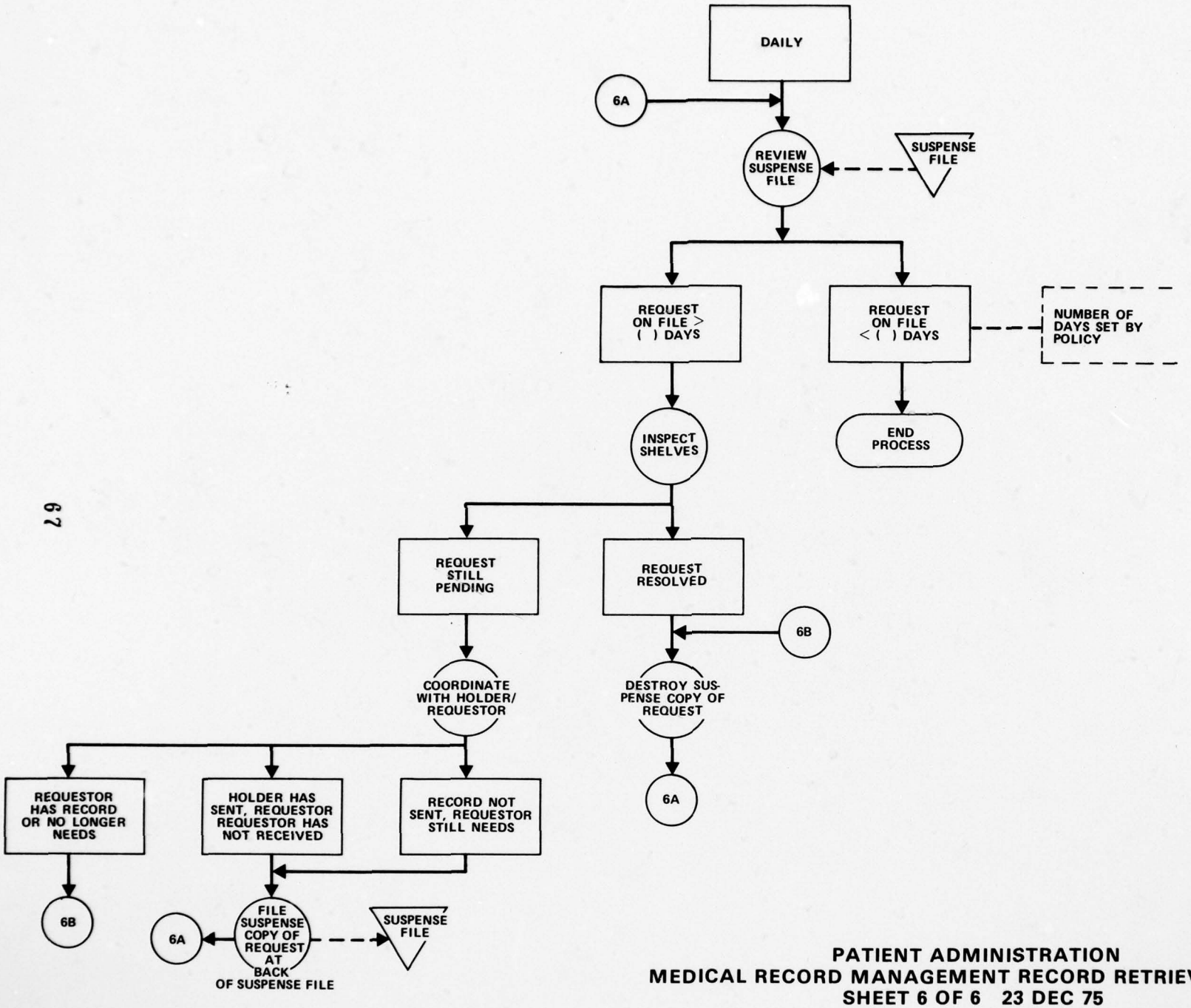
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MEDICAL RECORD MANAGEMENT
RECORD RETRIEVAL PROCESS
SHEET 3 OF 6 23 DEC 75



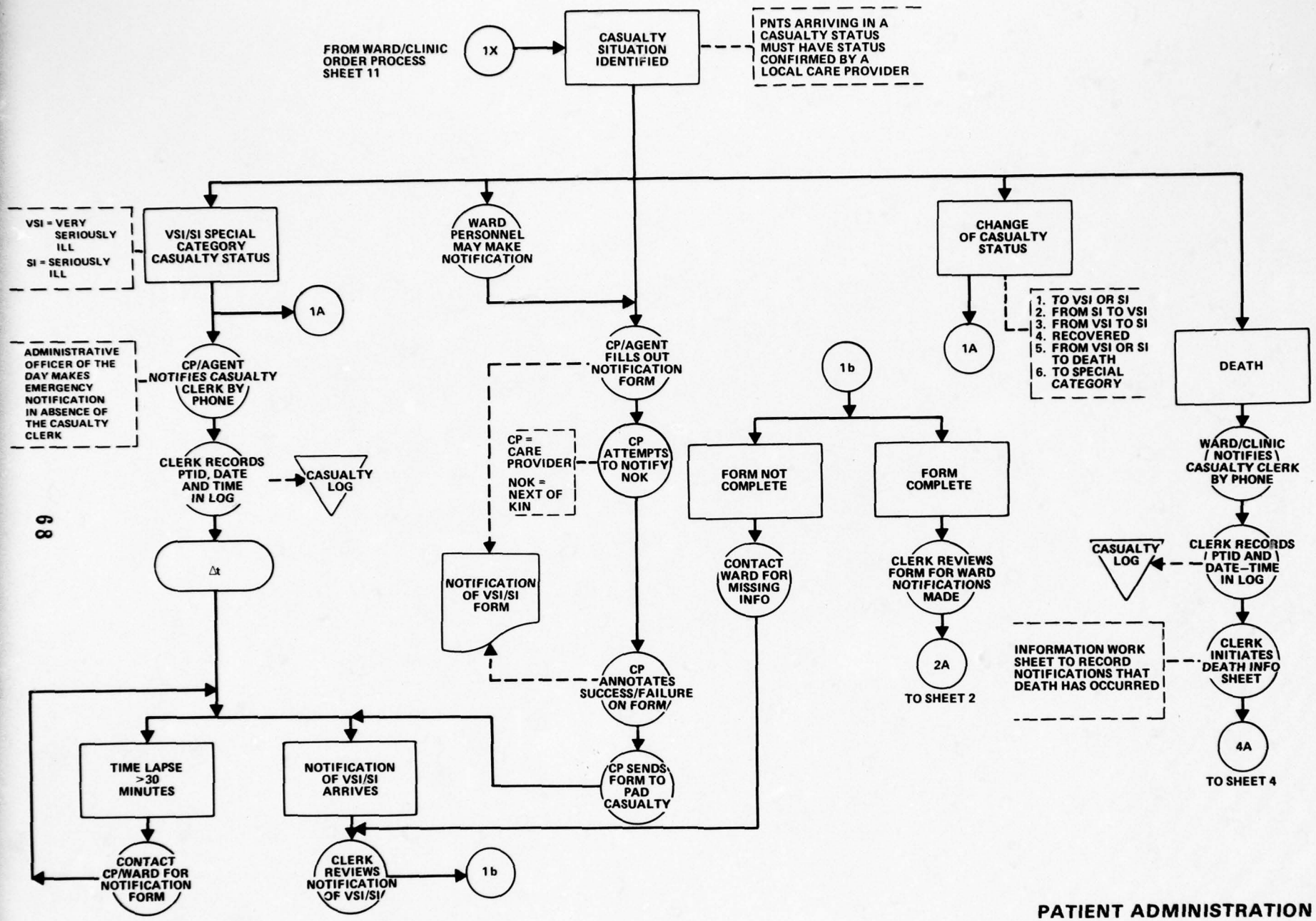
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SHEET 4 OF 6 23 DEC 75



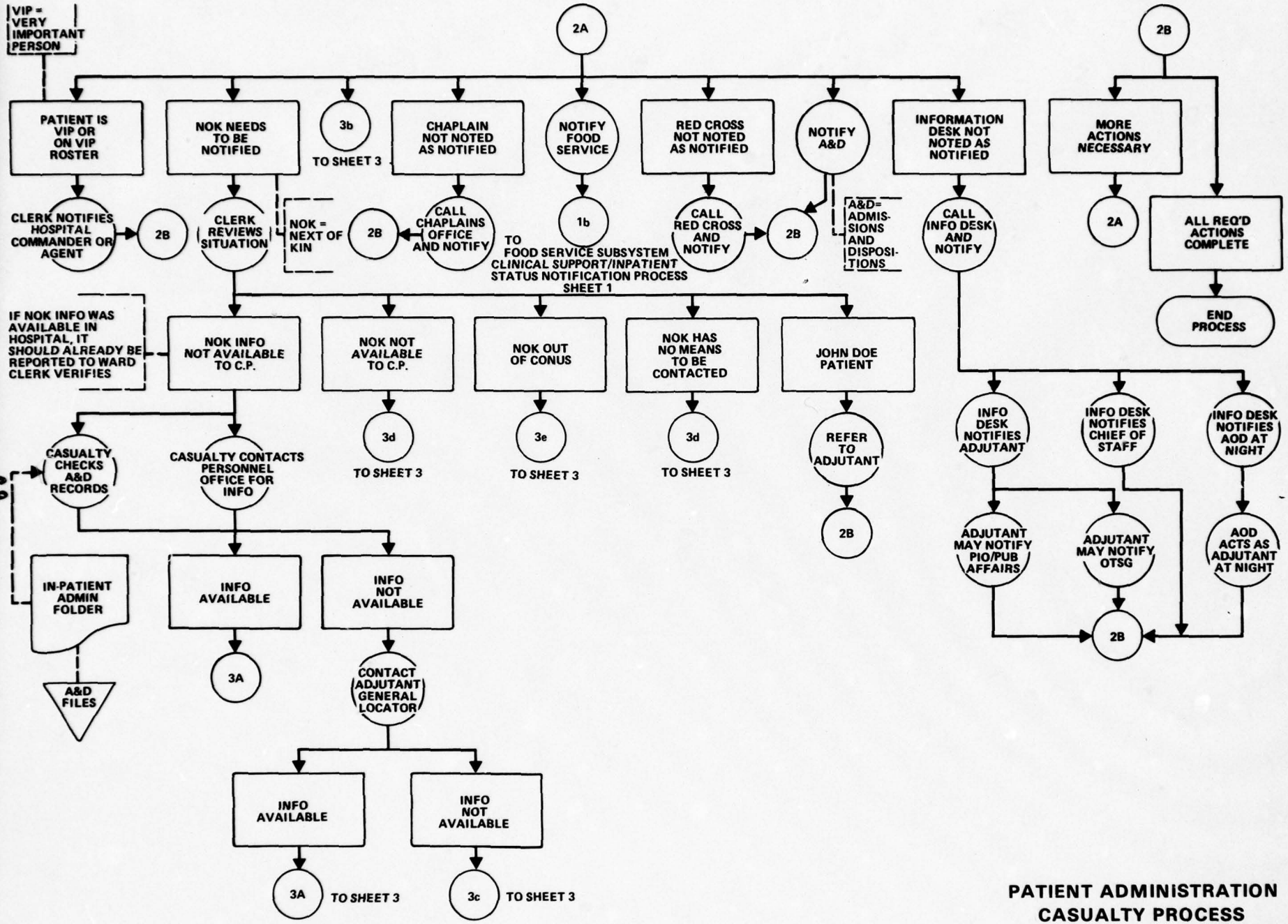
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RECORD RETRIEVAL PROCESS
SHEET 5 OF 6 23 DEC 75



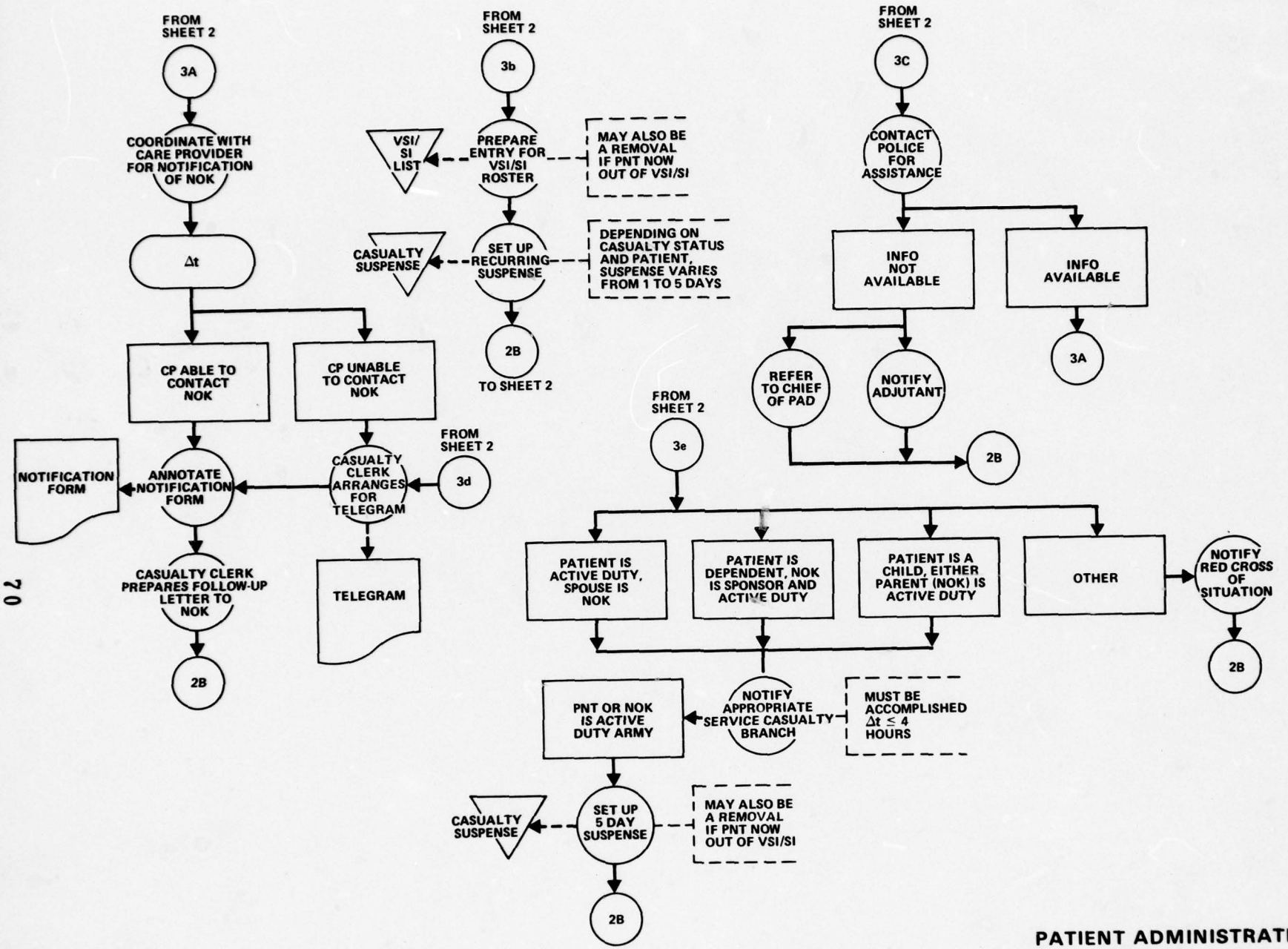
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SHEET 6 OF 6 23 DEC 75



PATIENT ADMINISTRATION
CASUALTY PROCESS
SHEET 1 OF 7 16 DEC 75

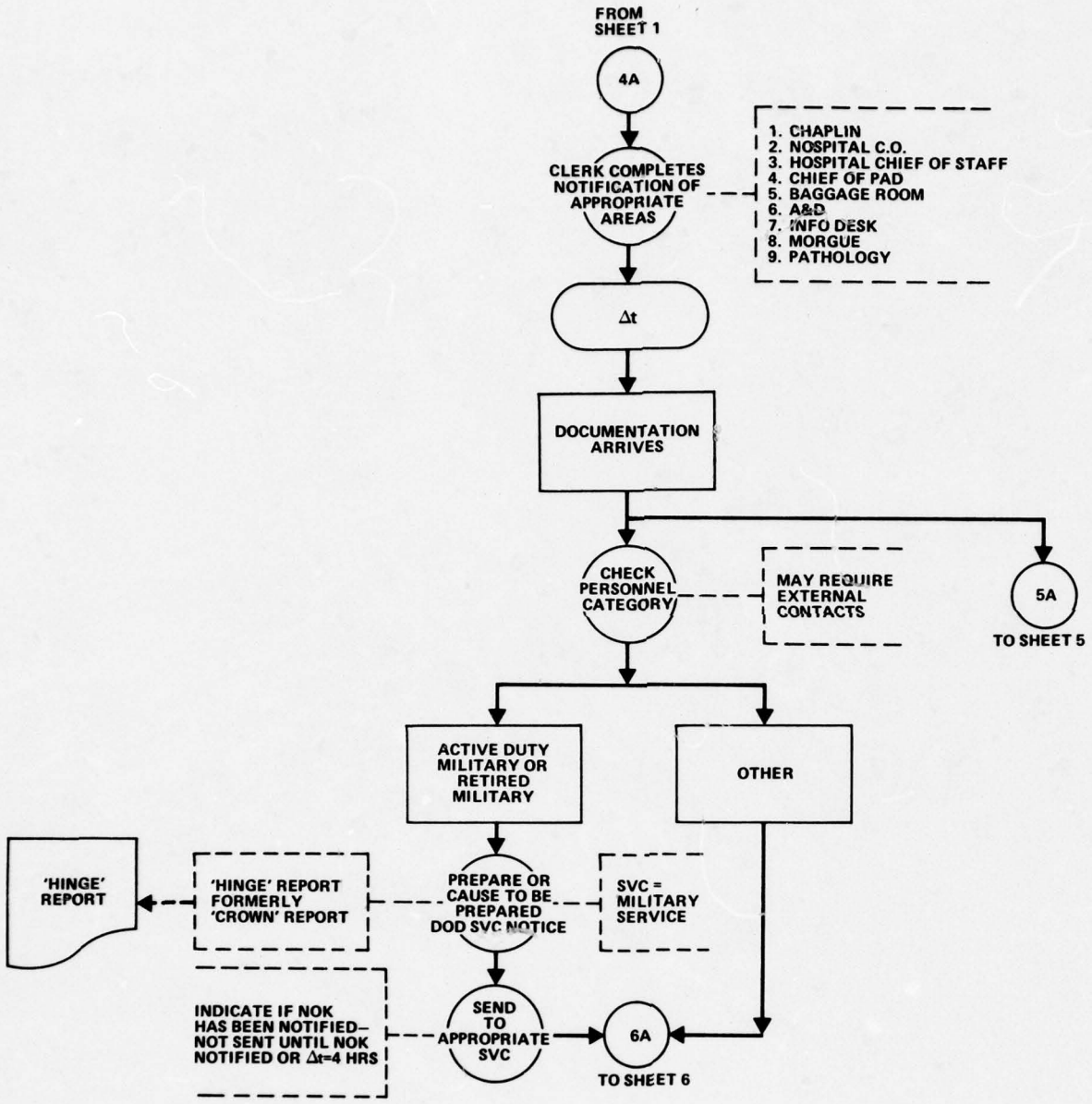


PATIENT ADMINISTRATION
CASUALTY PROCESS
SHEET 2 OF 7 16 DEC 75

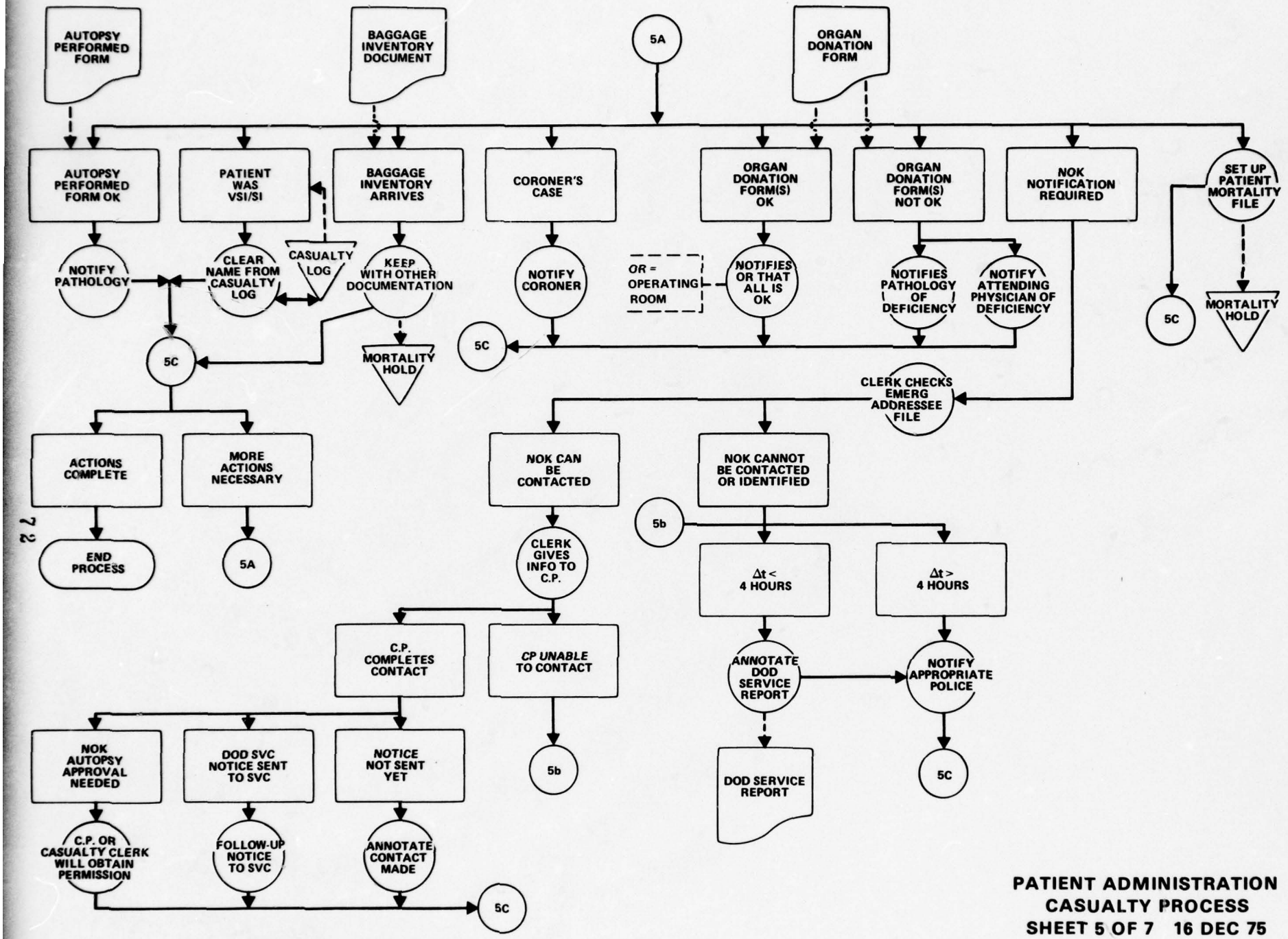


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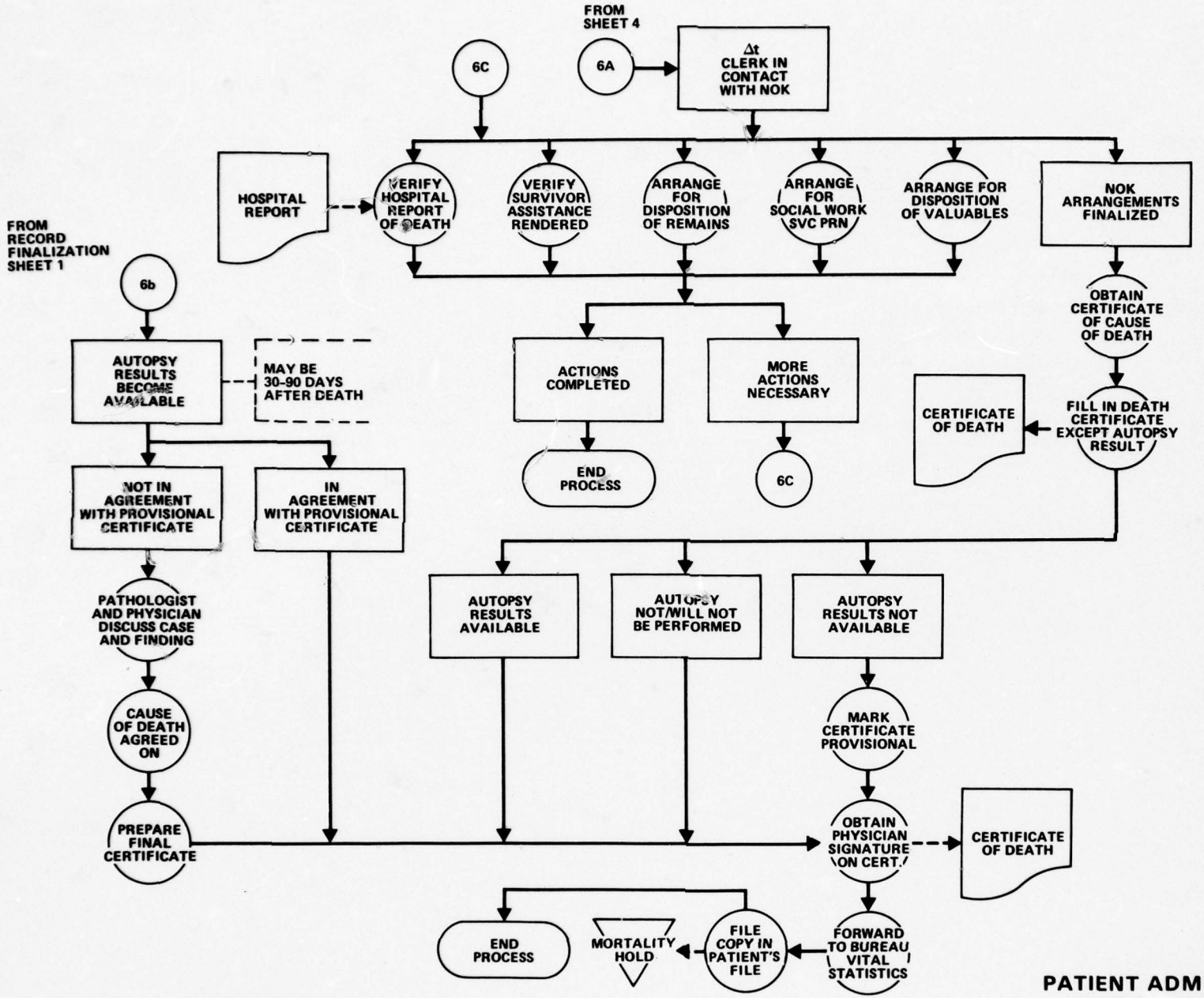
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CASUALTY PROCESS
SHEET 3 OF 7 16 DEC 75



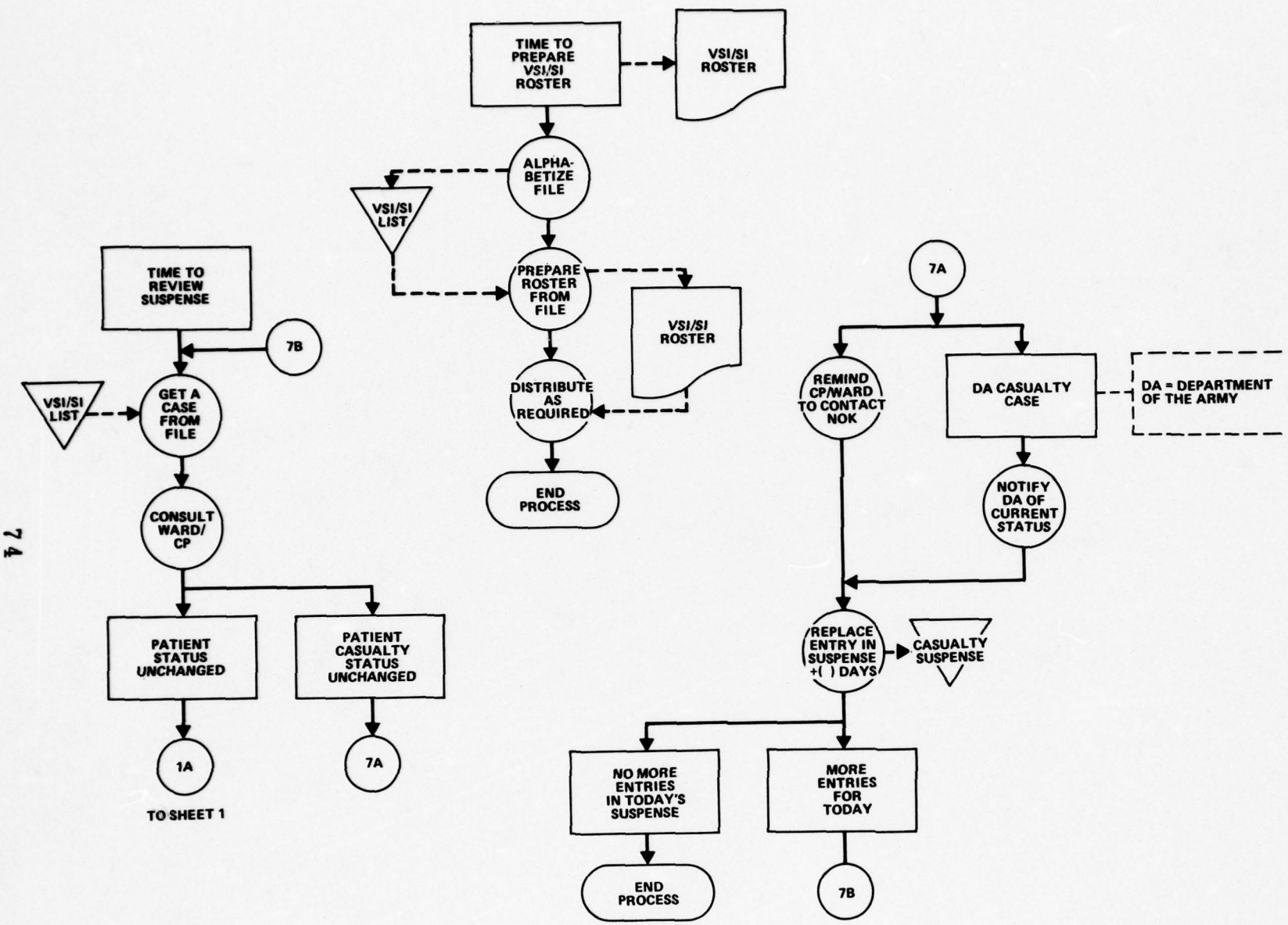
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CASUALTY PROCESS
SHEET 4 OF 7 16 DEC 75



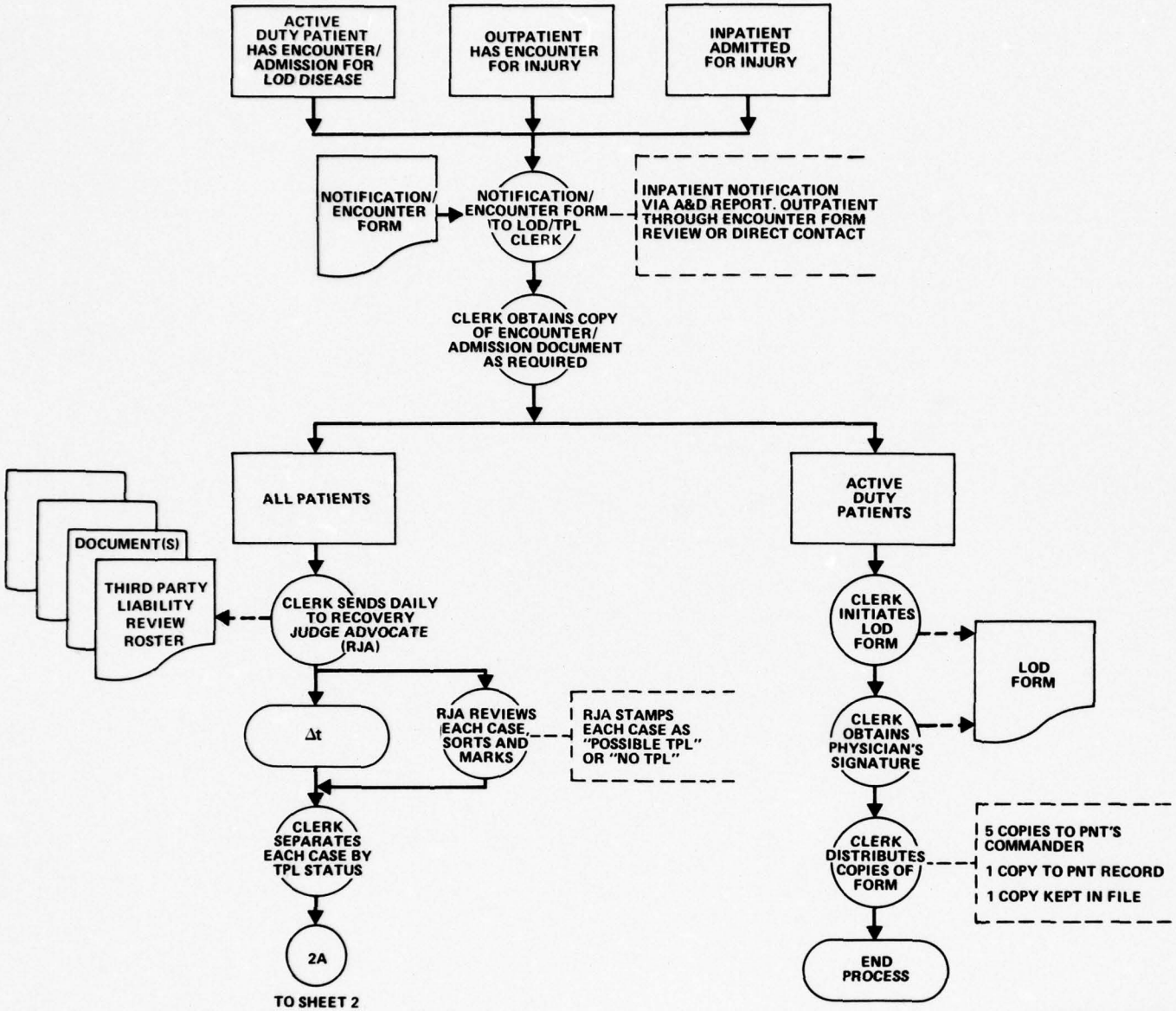
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CASUALTY PROCESS
SHEET 5 OF 7 16 DEC 75



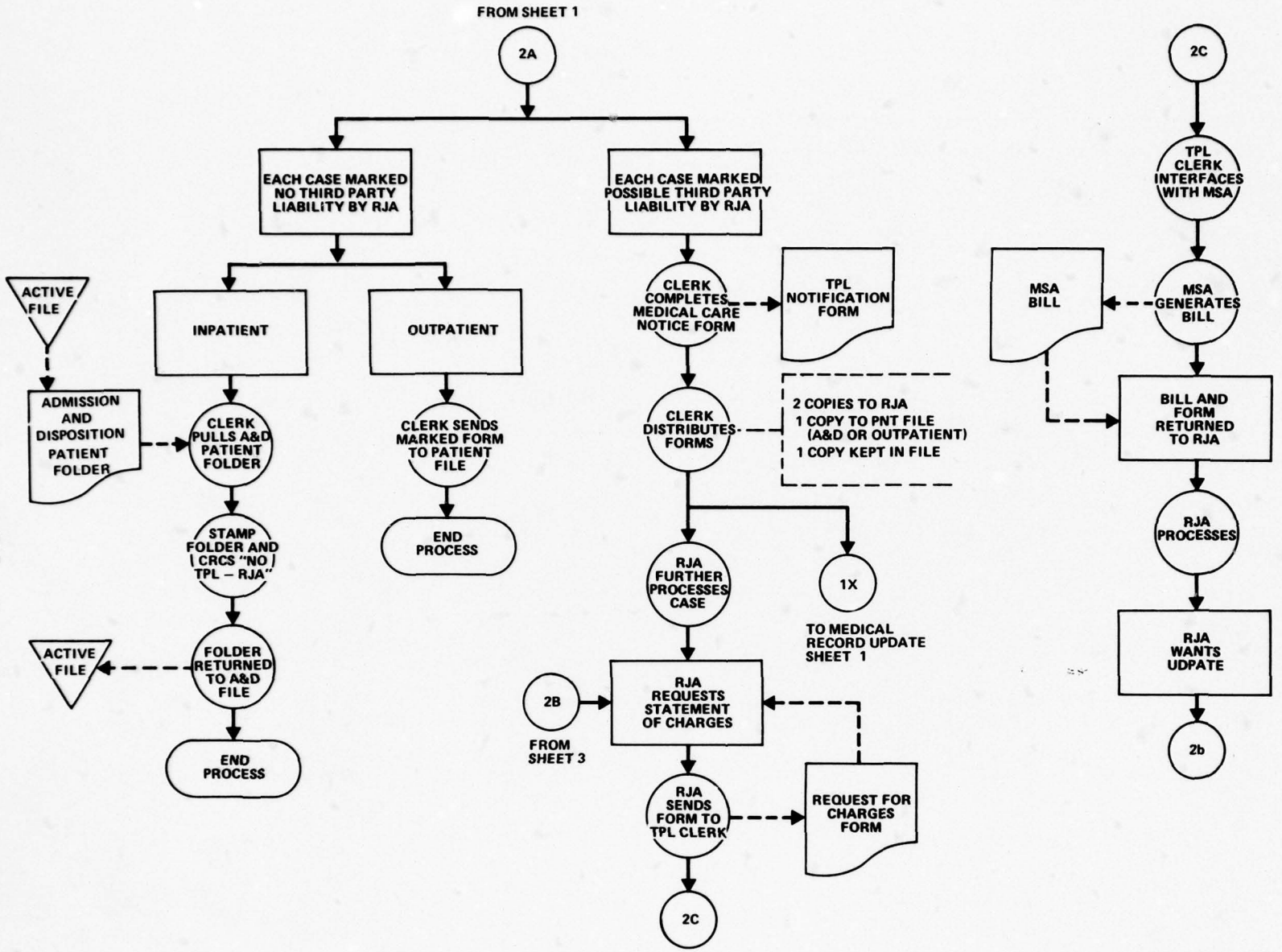
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CASUALTY PROCESS
SHEET 6 OF 7 16 DEC 75



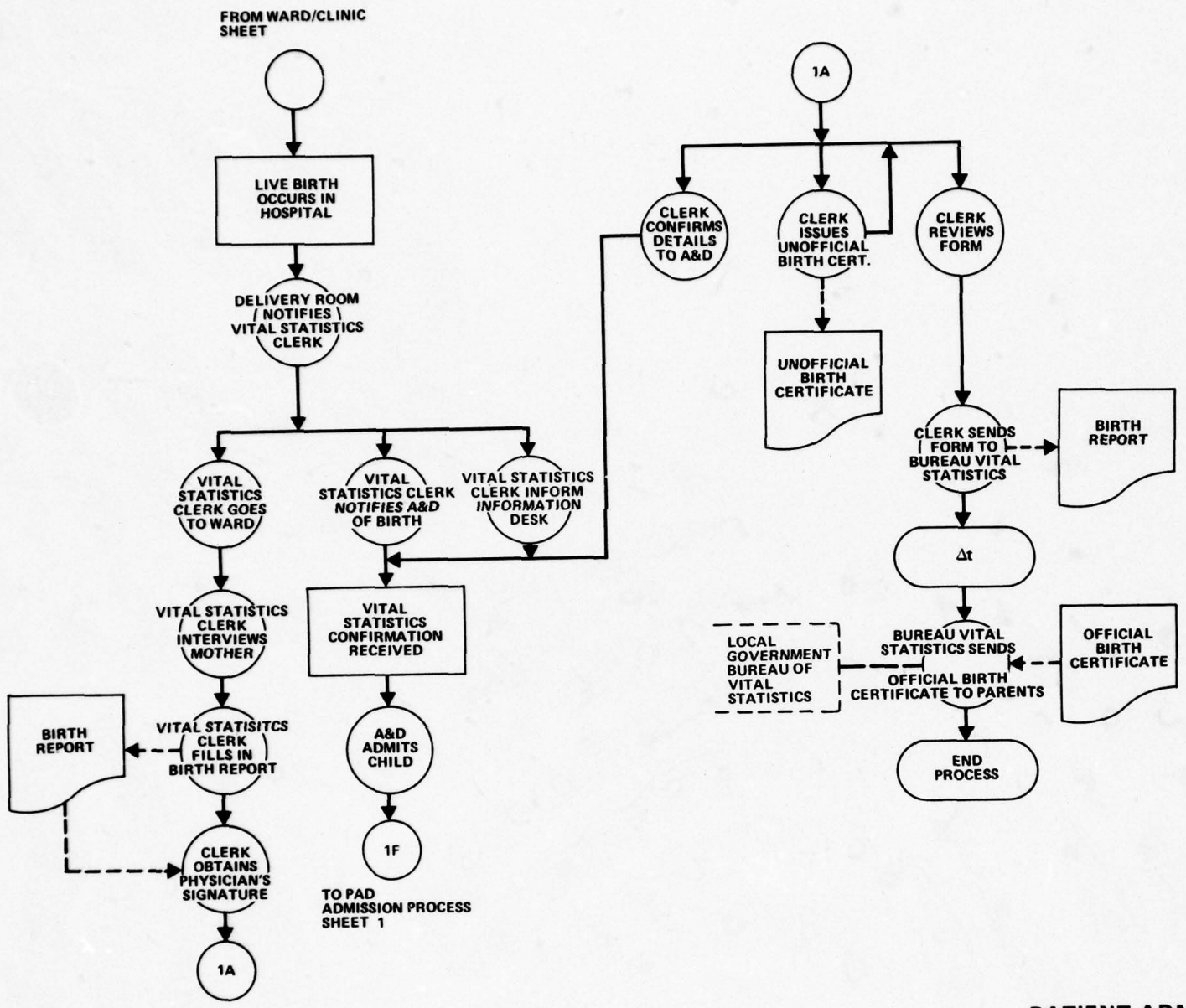
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CASUALTY PROCESS
SHEET 7 OF 7 16 DEC 75



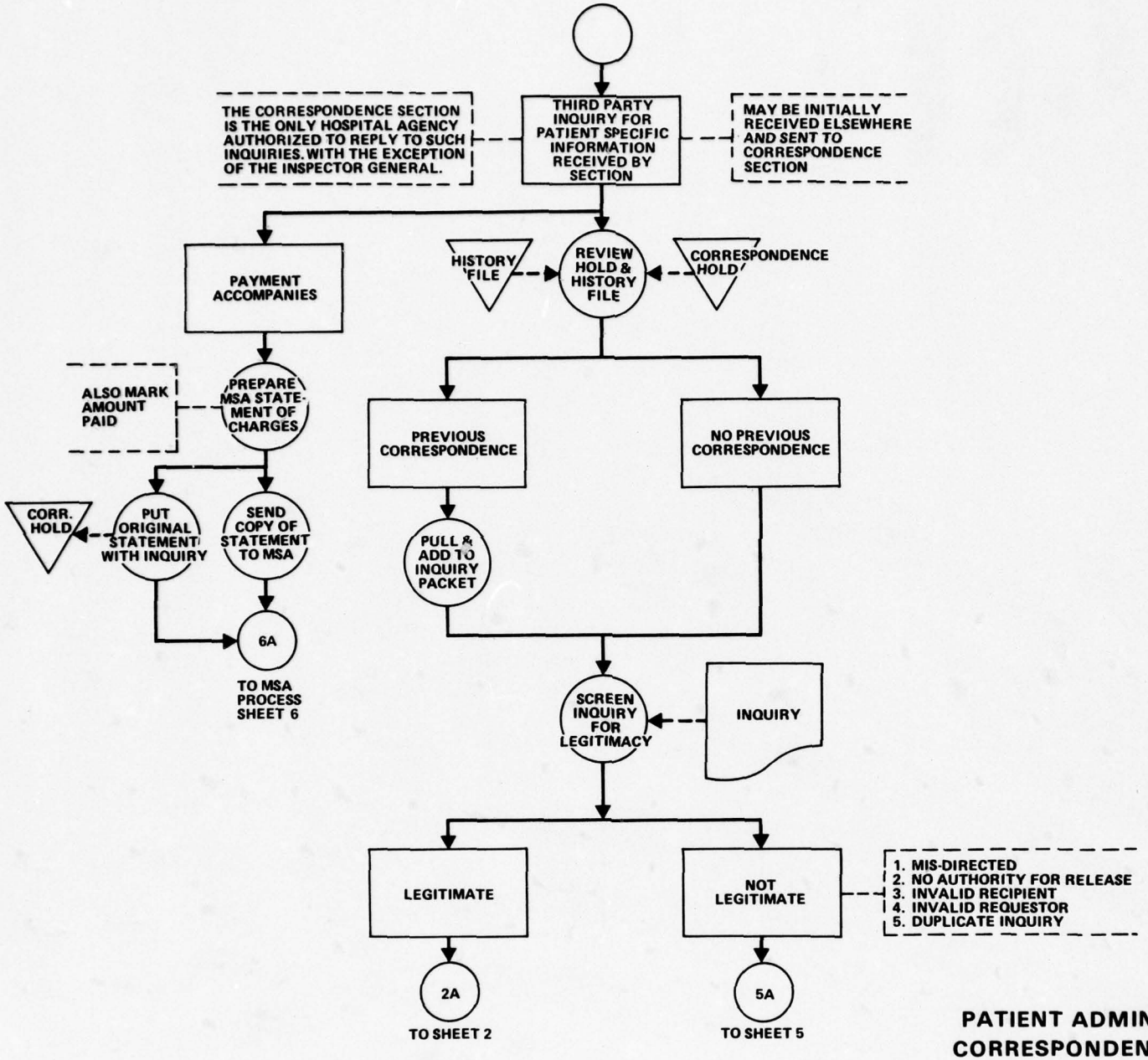
PATIENT ADMINSTRATION
LINE OF DUTY/THIRD PARTY LIABILITY
SHEET 1 OF 2 16 DEC 75



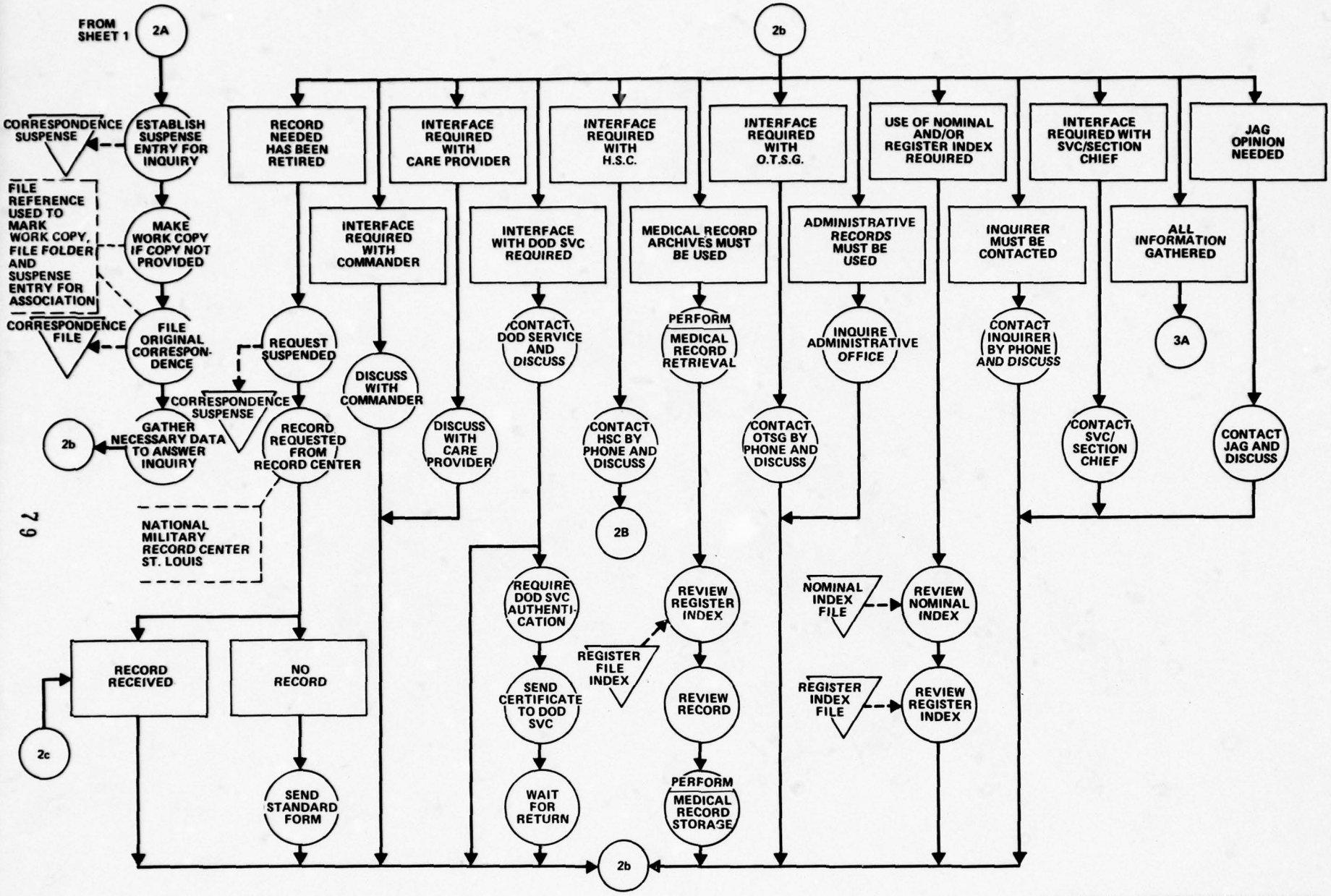
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LINE OF DUTY/THIRD PARTY LIABILITY
SHEET 2 OF 2 16 DEC 75



PATIENT ADMINISTRATION
BIRTH REPORTING PROCESS
SHEET 1 OF 1 16 DEC 75

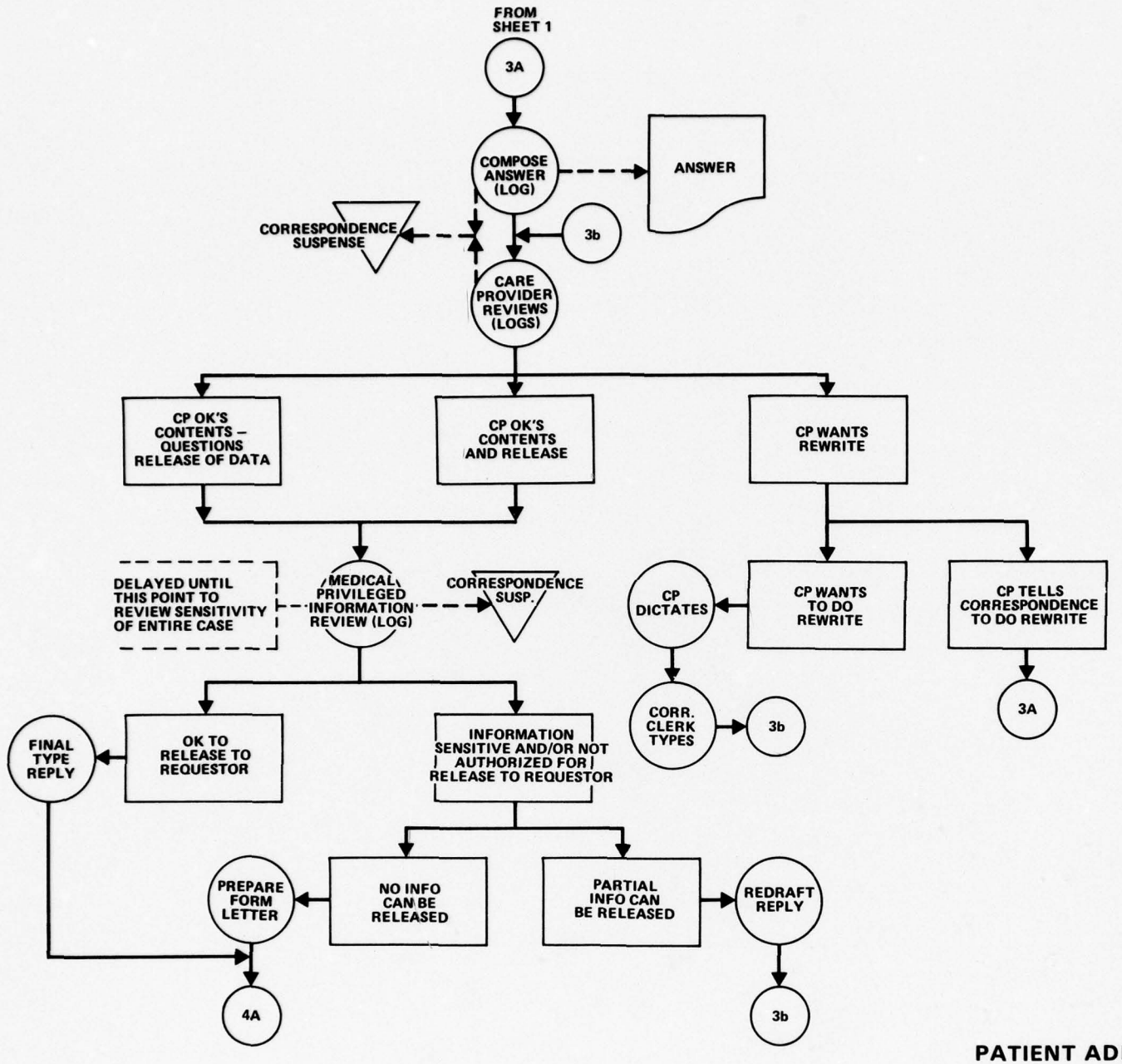


PATIENT ADMINISTRATION
CORRESPONDENCE SECTION
SHEET 1 OF 6 16 DEC 75

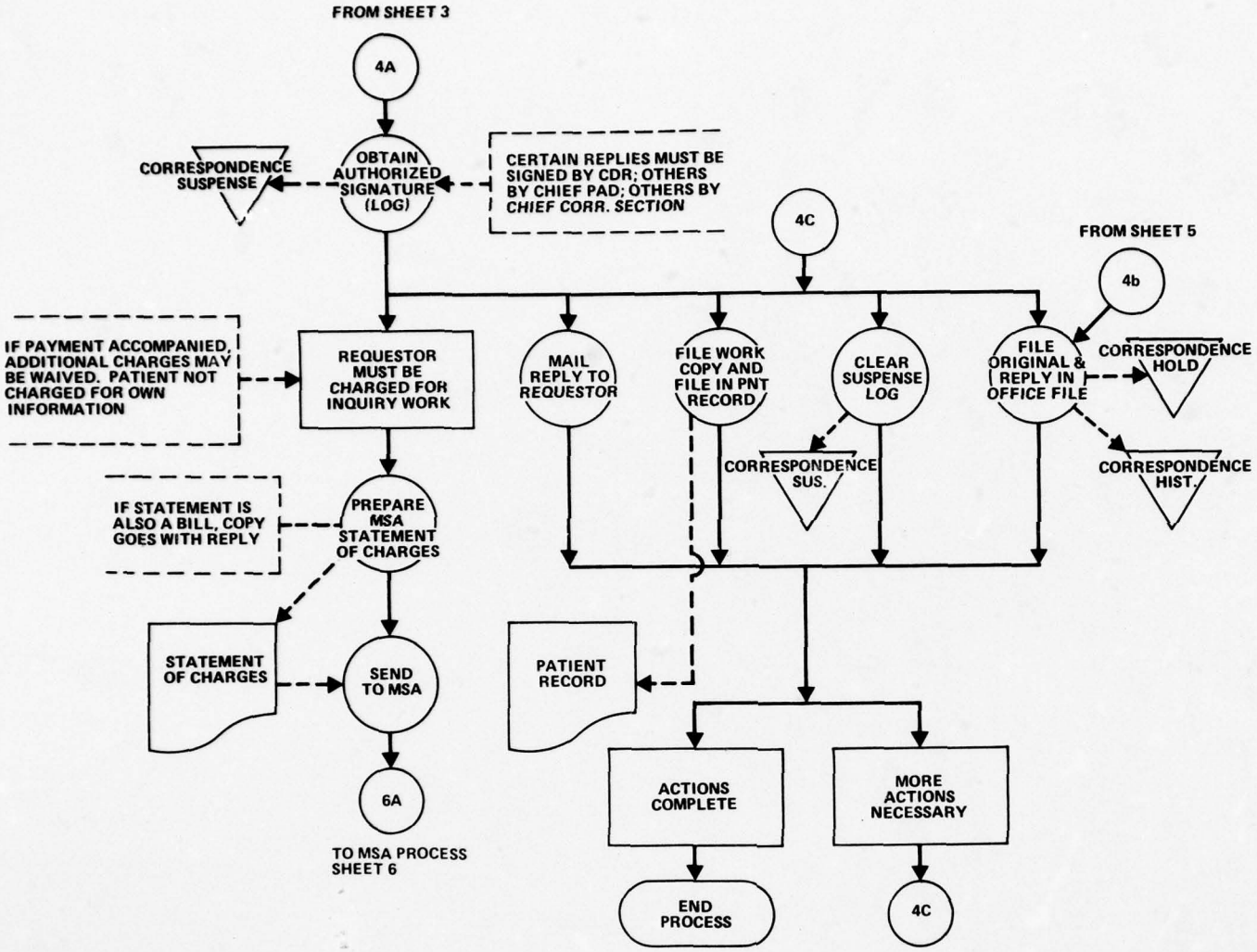


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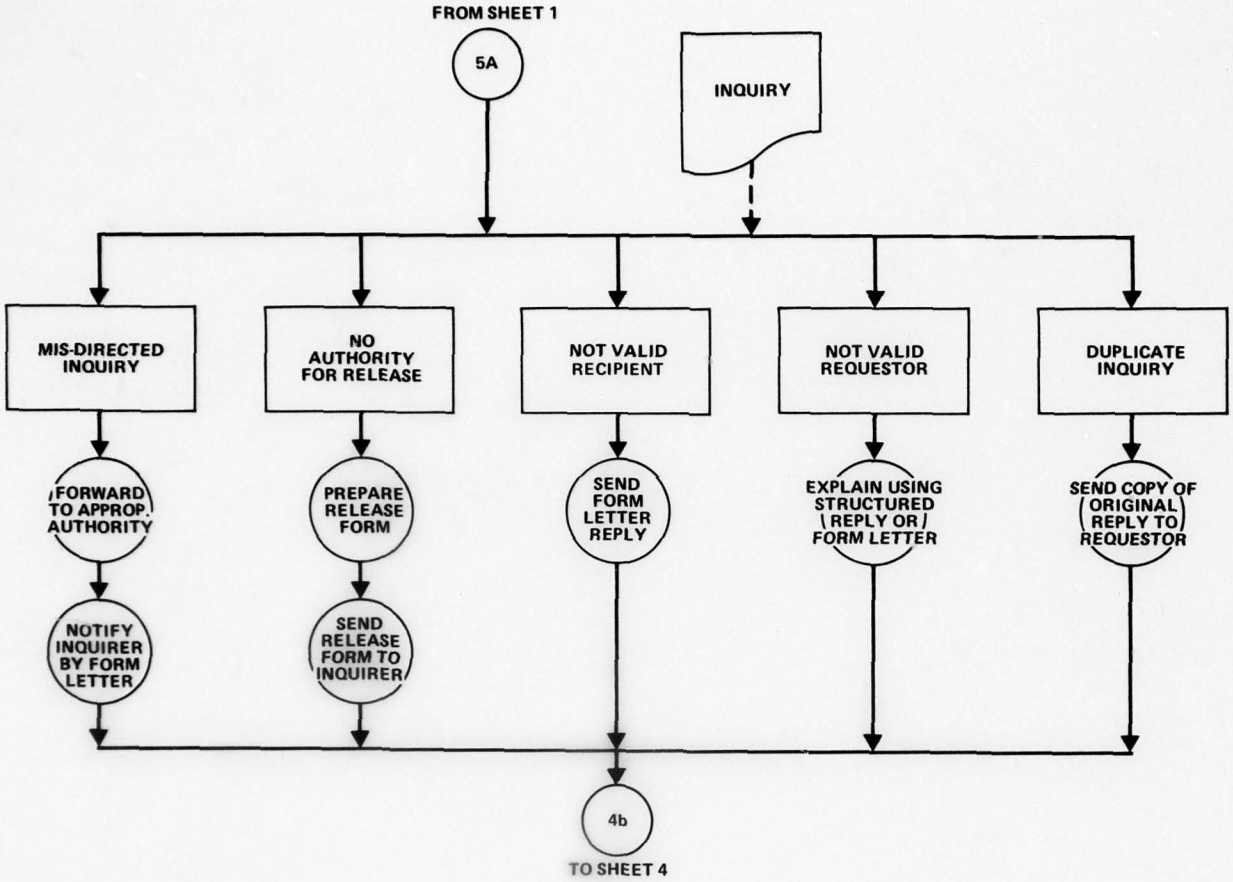
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CORRESPONDENCE SECTION
SHEET 2 OF 6 16 DEC 75



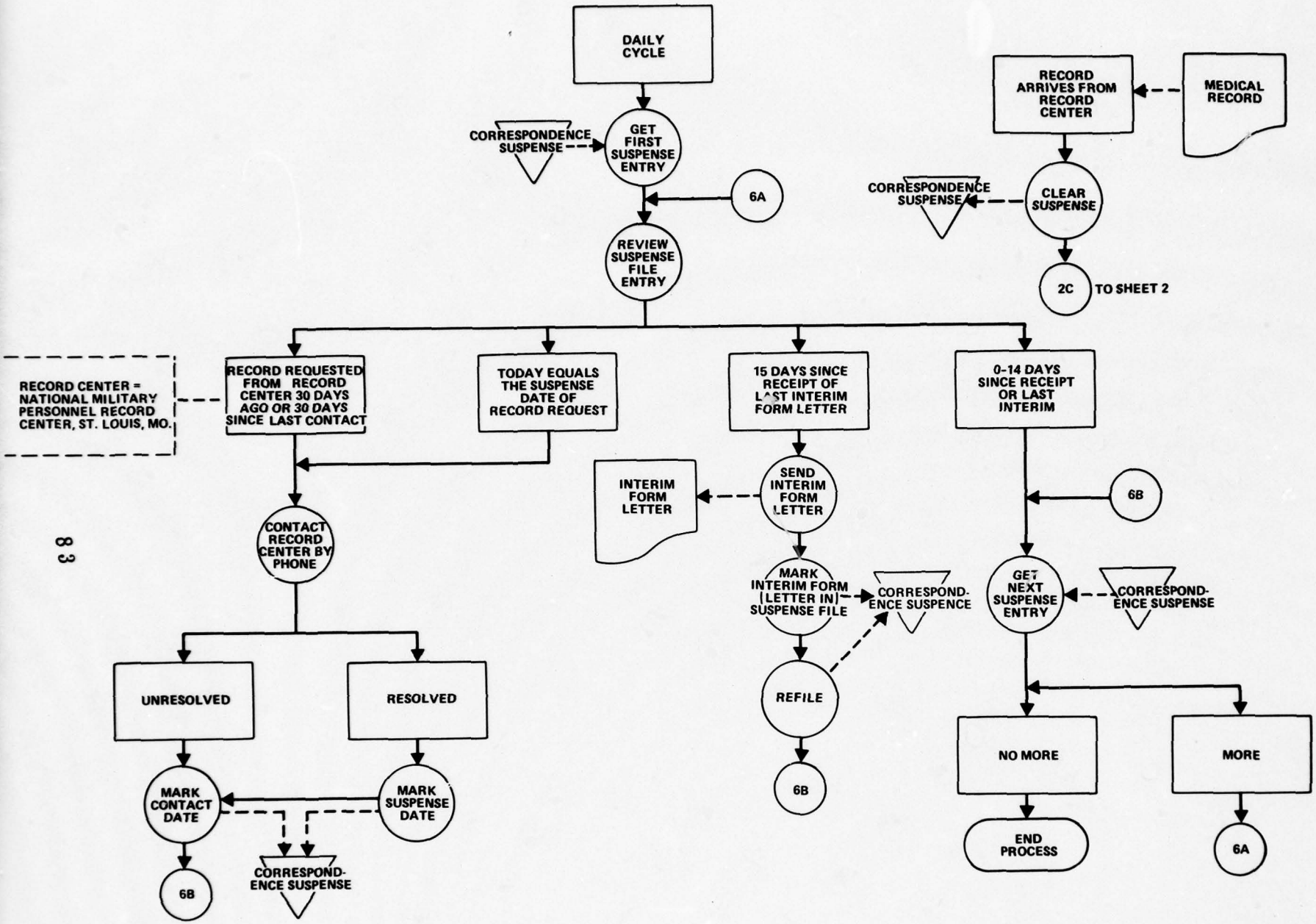
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CORRESPONDENCE SECTION
SHEET 3 OF 6 16 DEC 75



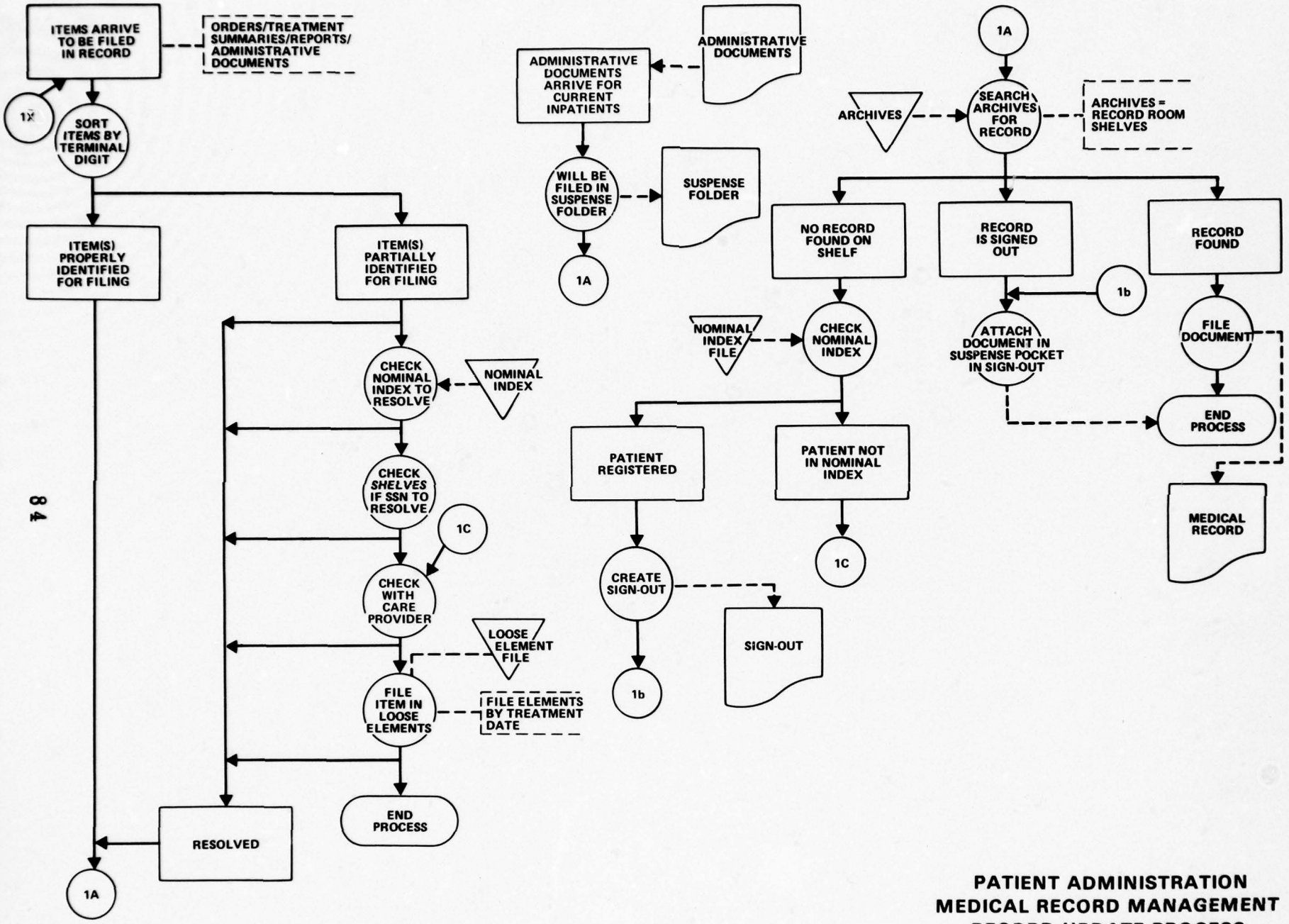
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CORRESPONDENCE SECTION
SHEET 4 OF 6 16 DEC 75



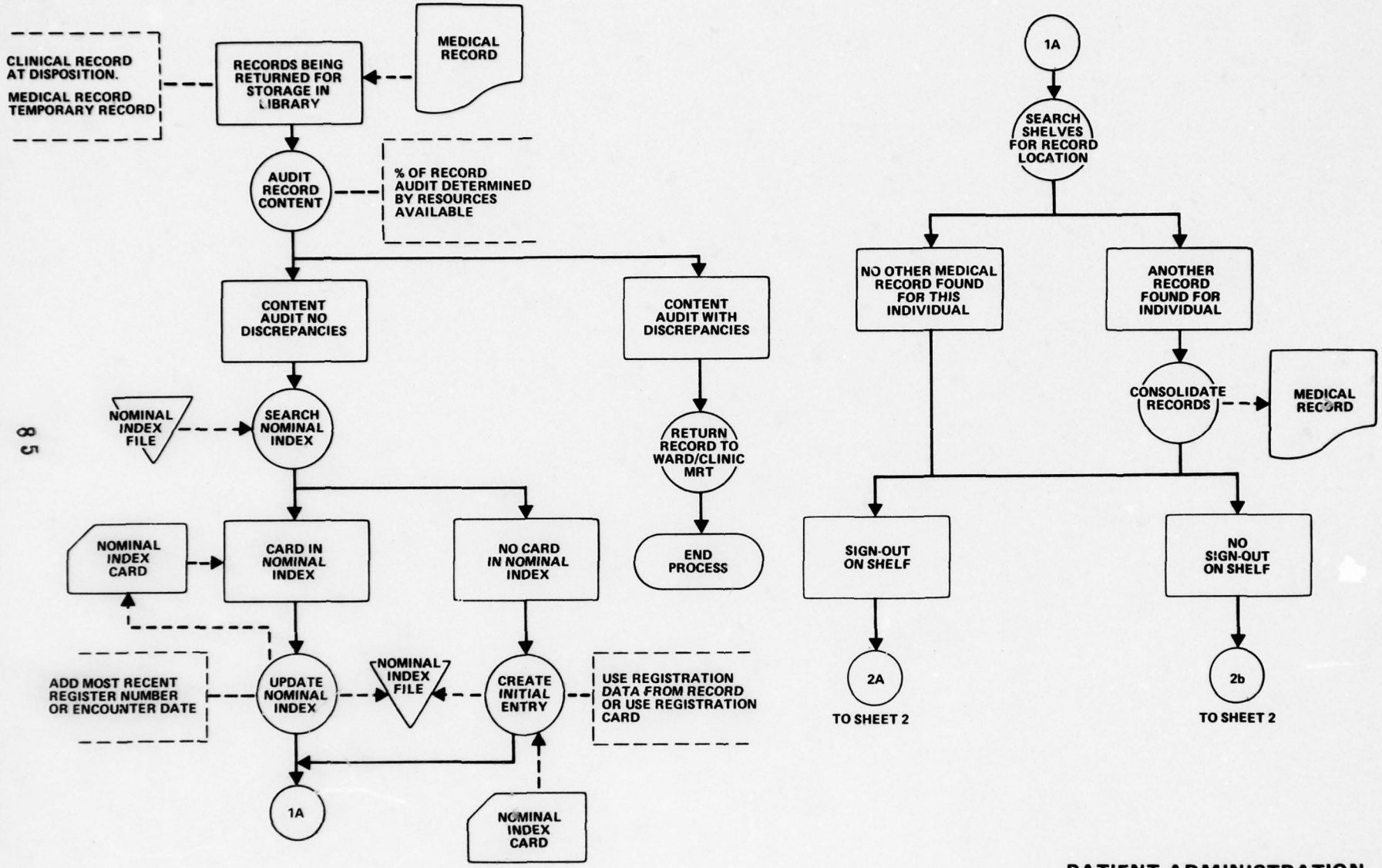
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CORRESPONDENCE SECTION
SHEET 5 OF 6 16 DEC 75



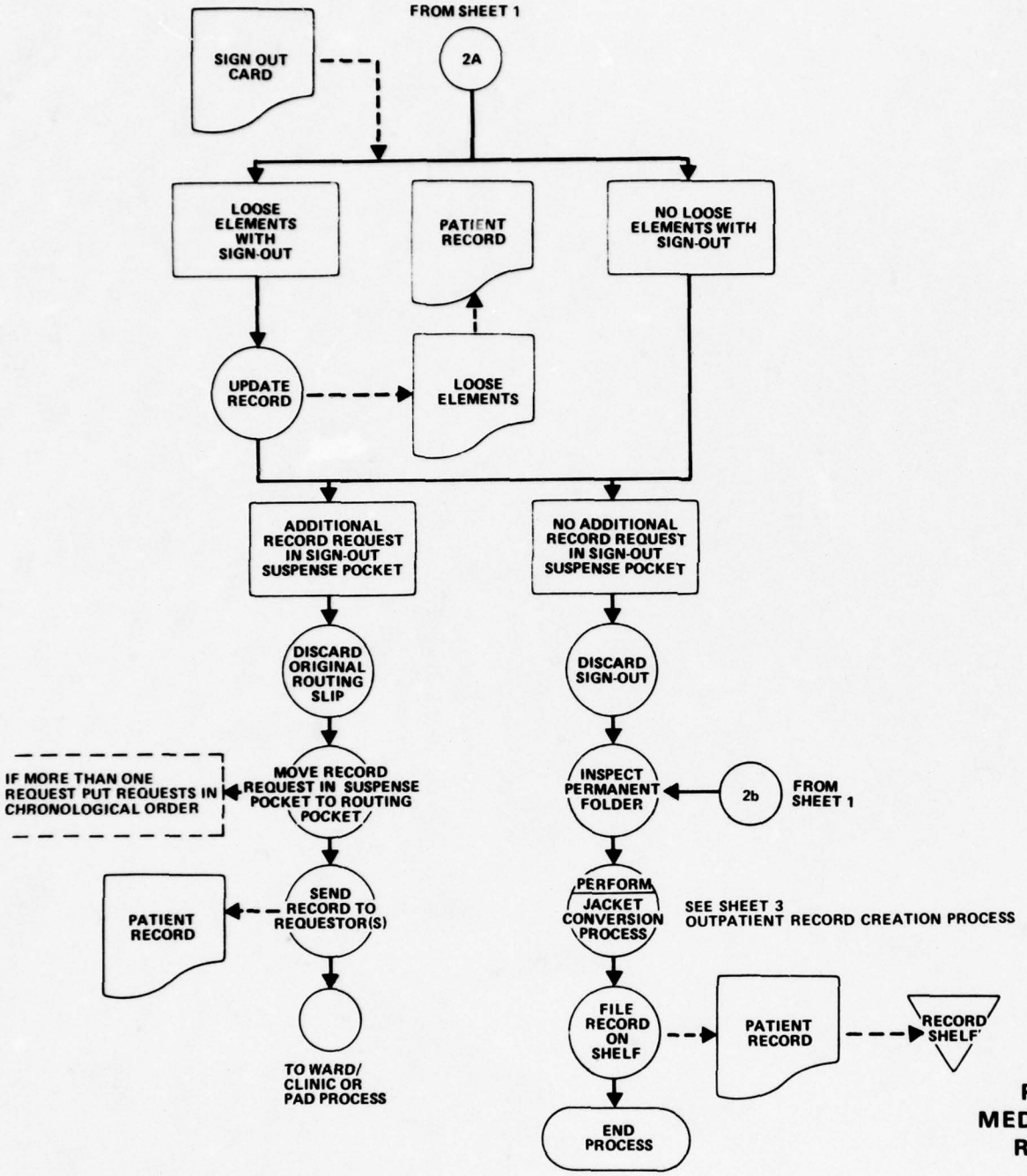
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CORRESPONDENCE SECTION
SHEET 6 OF 6 16 DEC 75



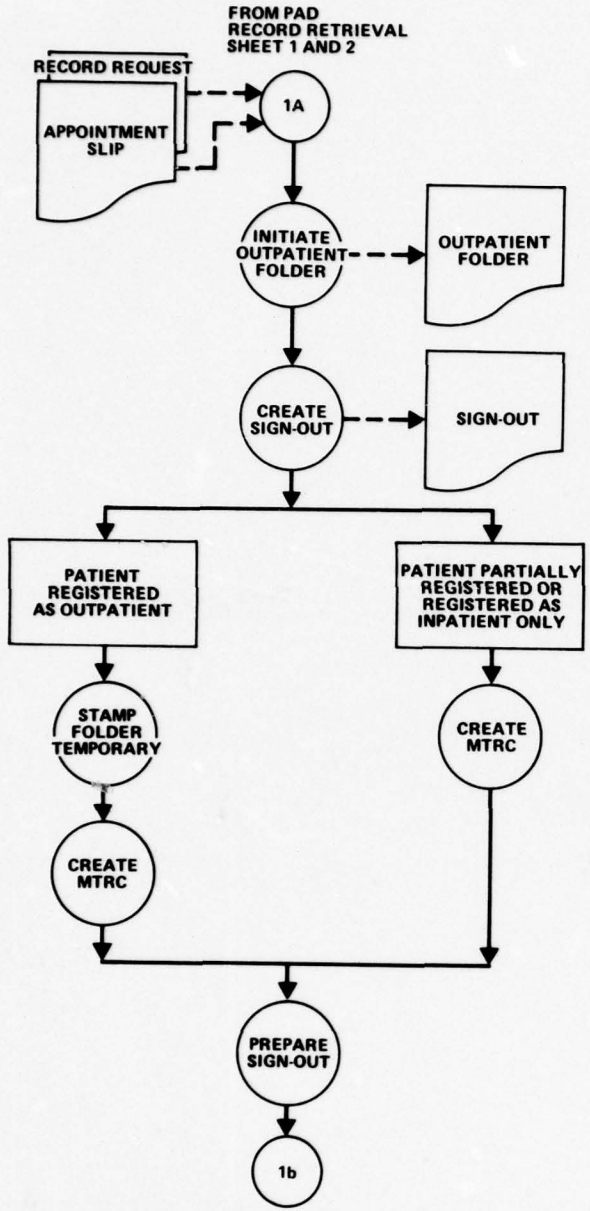
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MEDICAL RECORD MANAGEMENT
RECORD UPDATE PROCESS
SHEET 1 OF 1 16 DEC 75

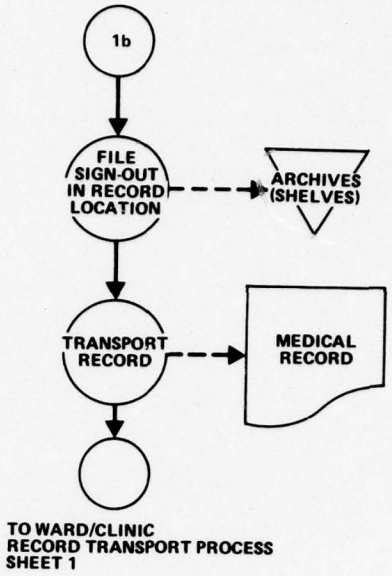


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MEDICAL RECORD MANAGEMENT
RECORD STORAGE PROCESS
SHEET 1 OF 2 16 DEC 75

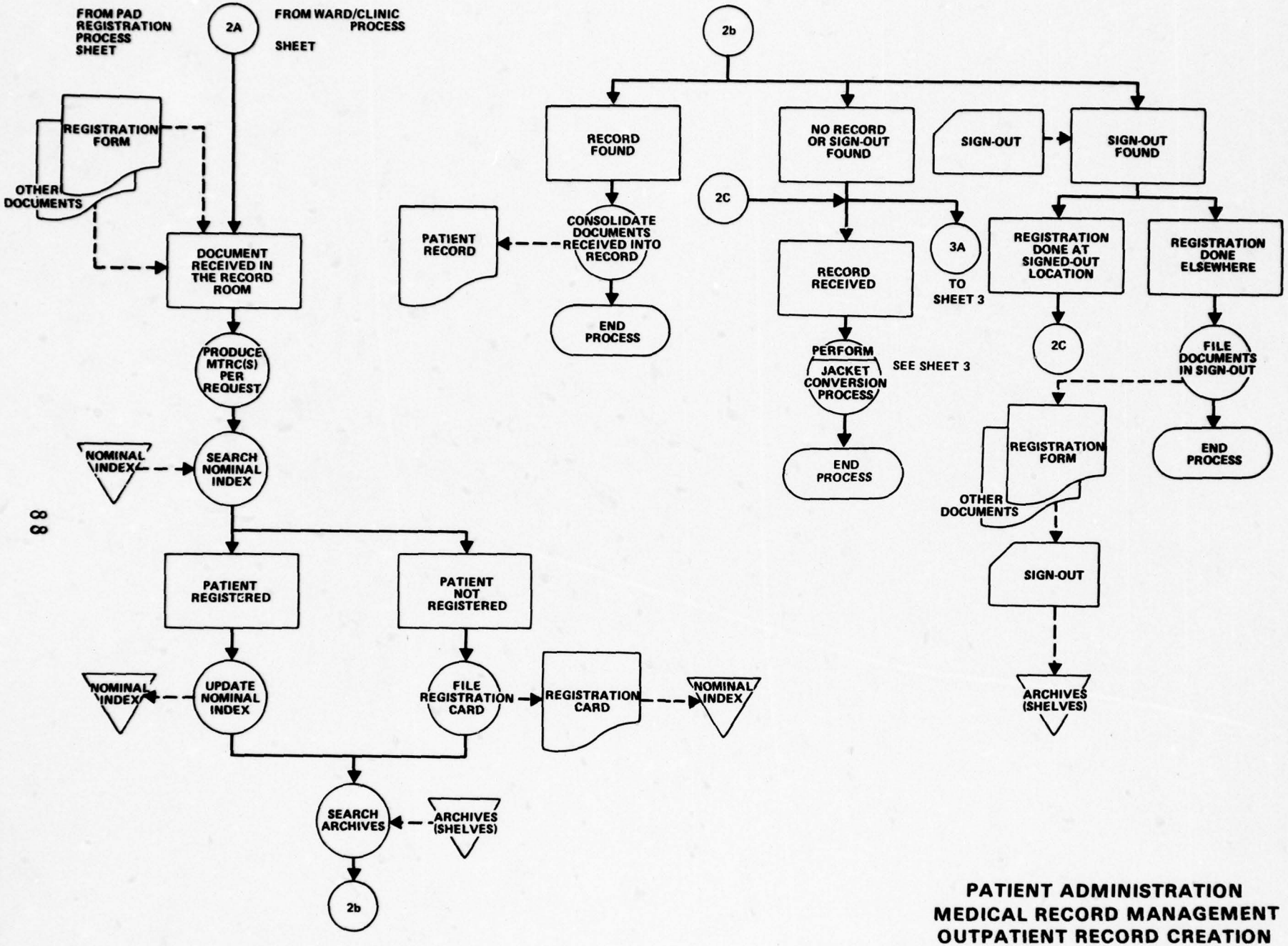


PATIENT ADMINISTRATION
MEDICAL RECORD MANAGEMENT
RECORD STORAGE PROCESS
SHEET 2 OF 2 16 DEC 75

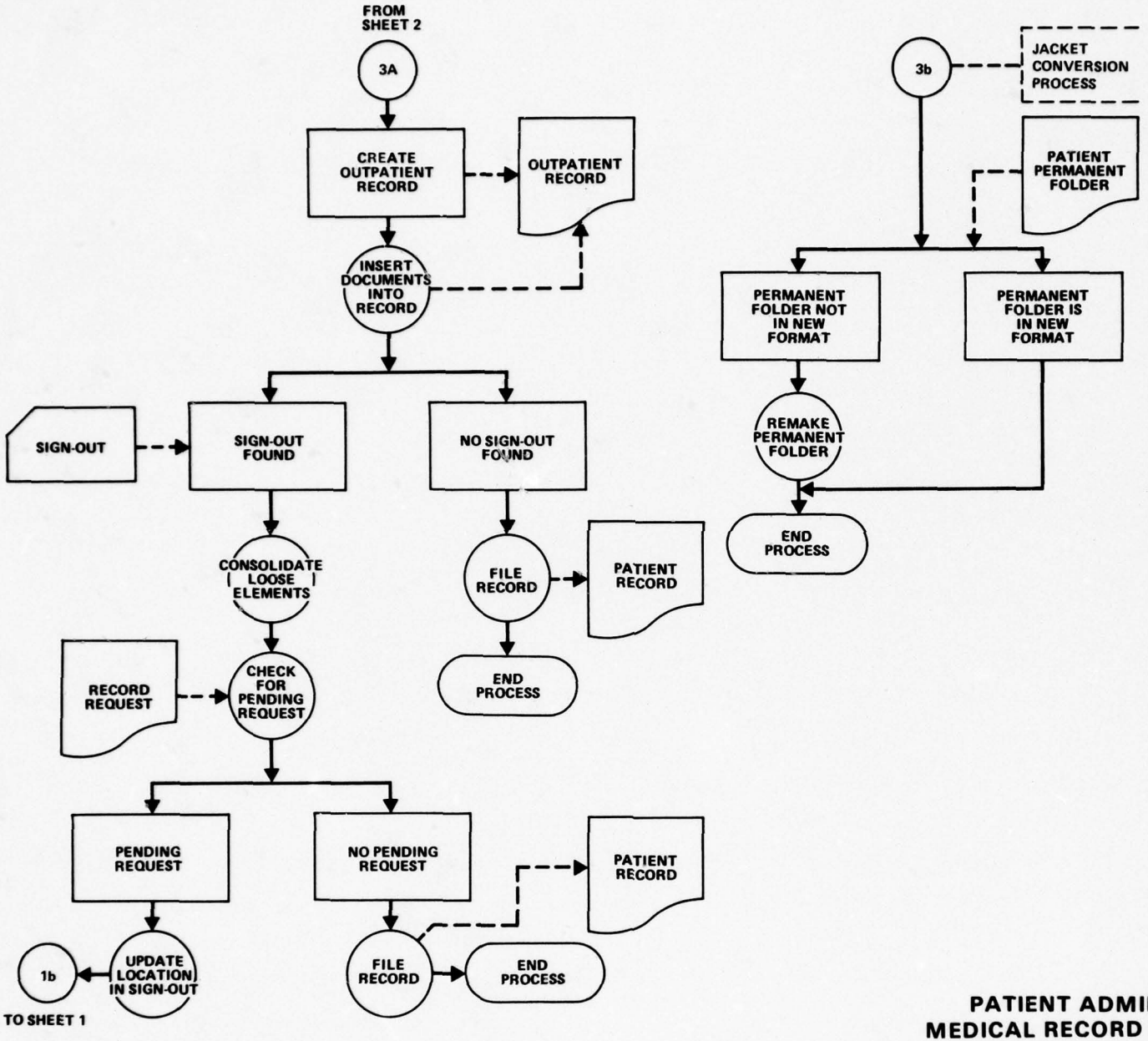




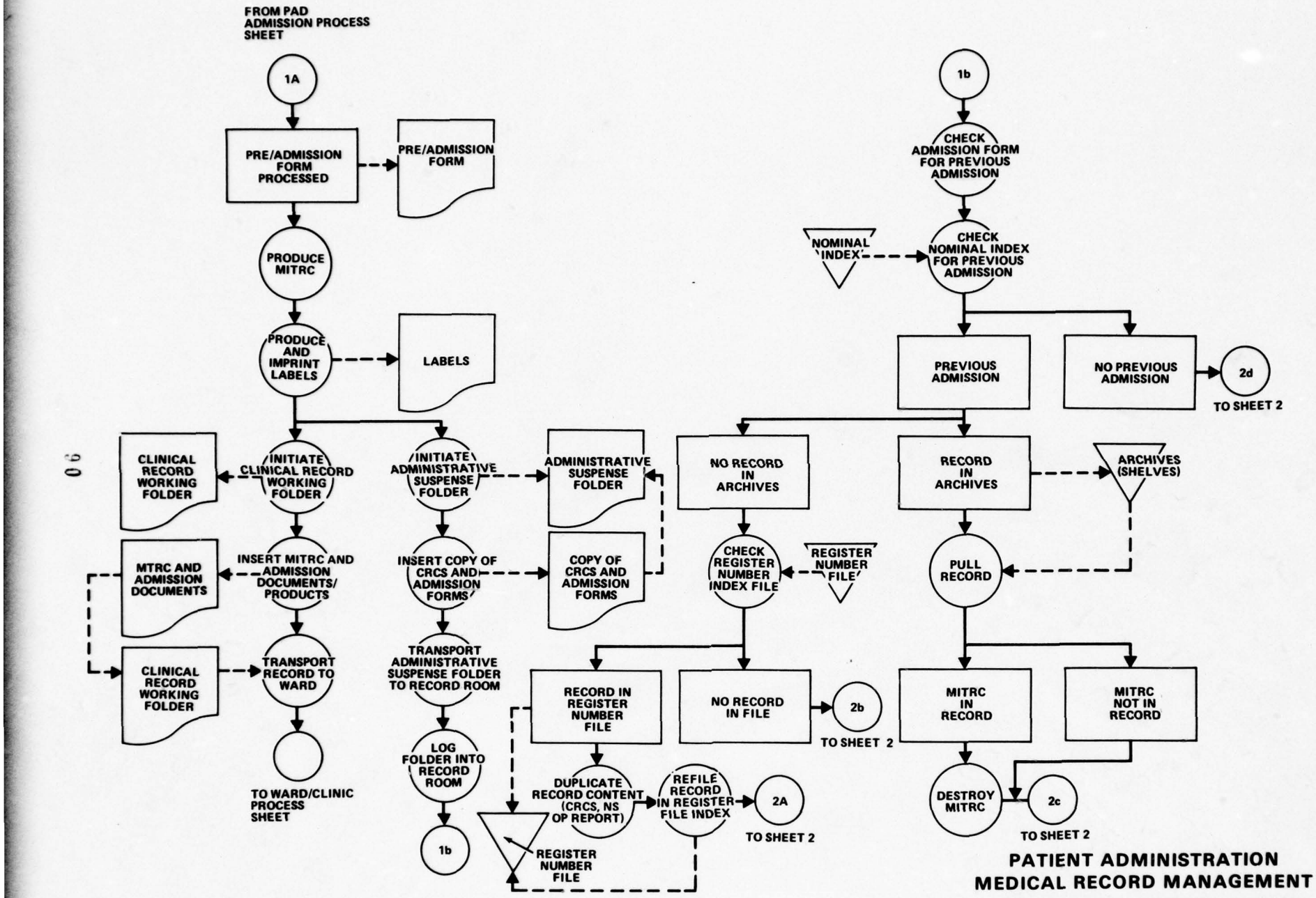
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MEDICAL RECORD MANAGEMENT
OUTPATIENT RECORD CREATION
SHEET 1 OF 3 16 DEC 75



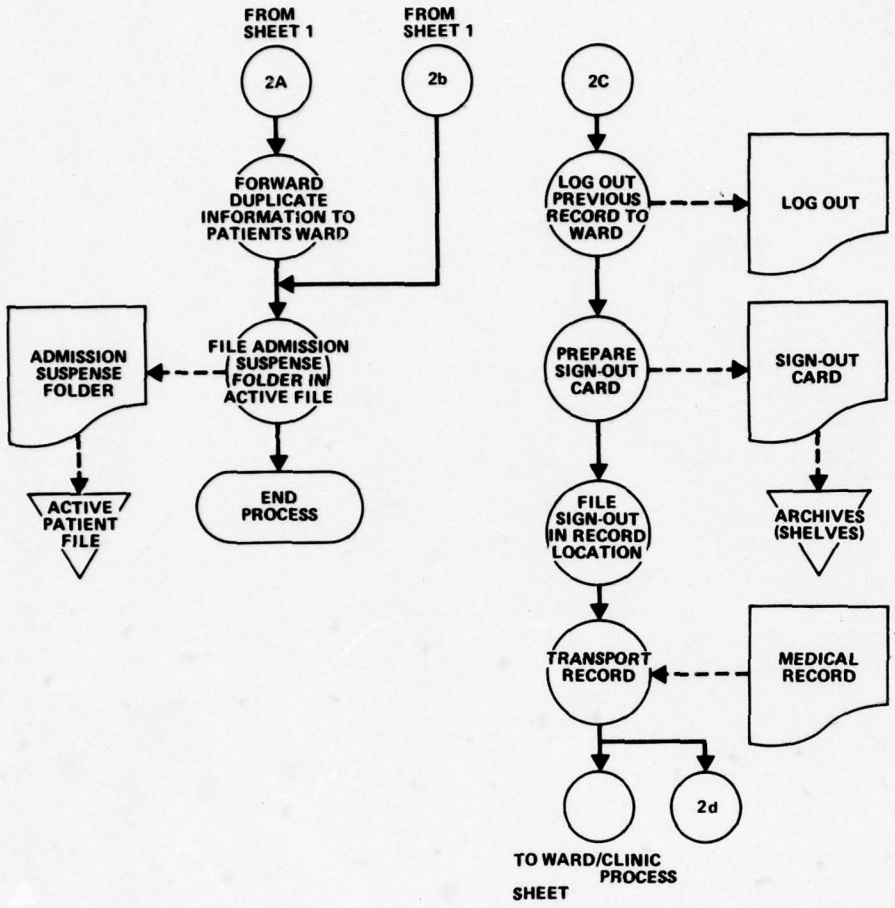
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MEDICAL RECORD MANAGEMENT
OUTPATIENT RECORD CREATION
SHEET 2 OF 3 16 DEC 75



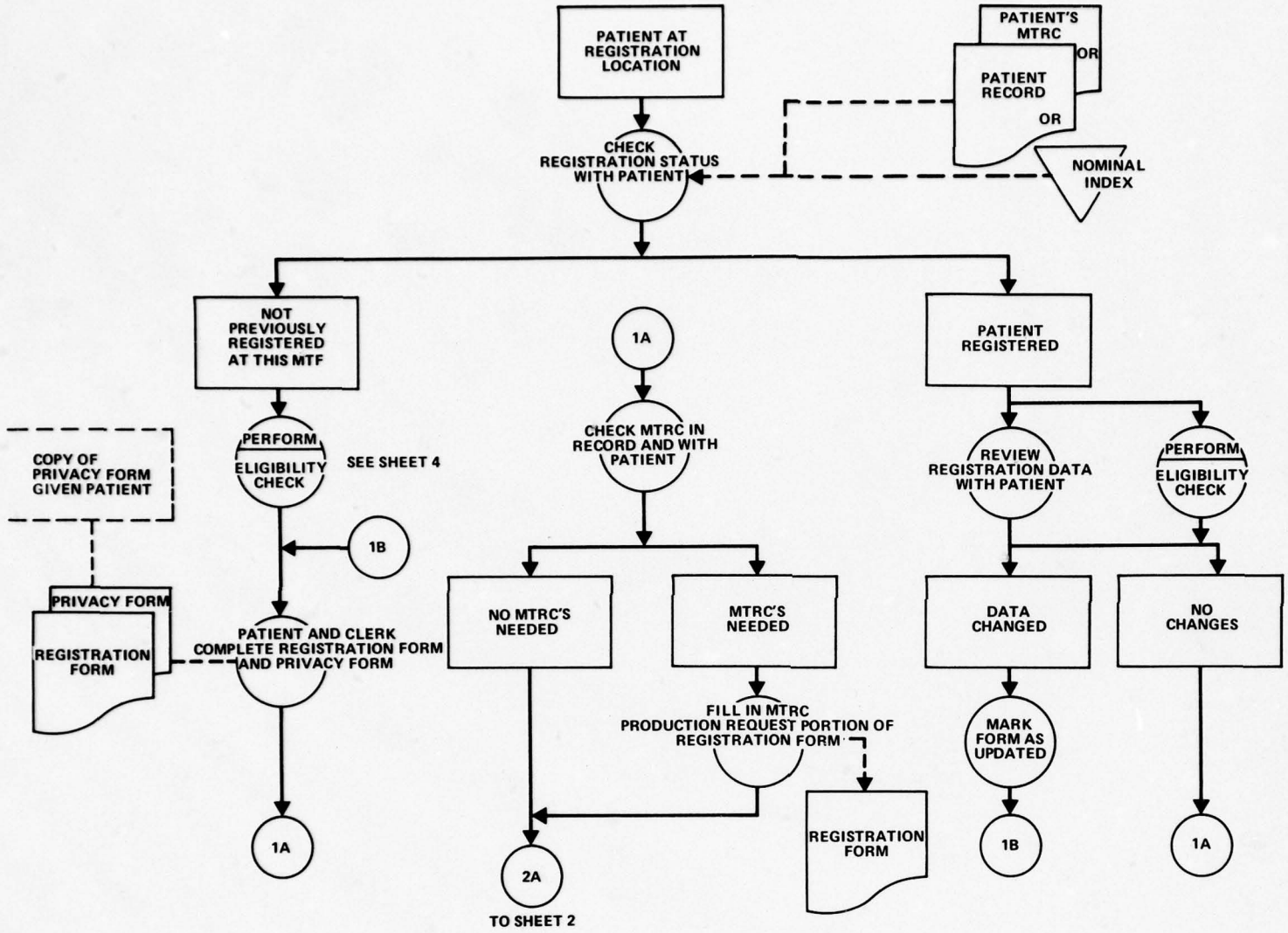
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SHEET 3 OF 3 16 DEC 75



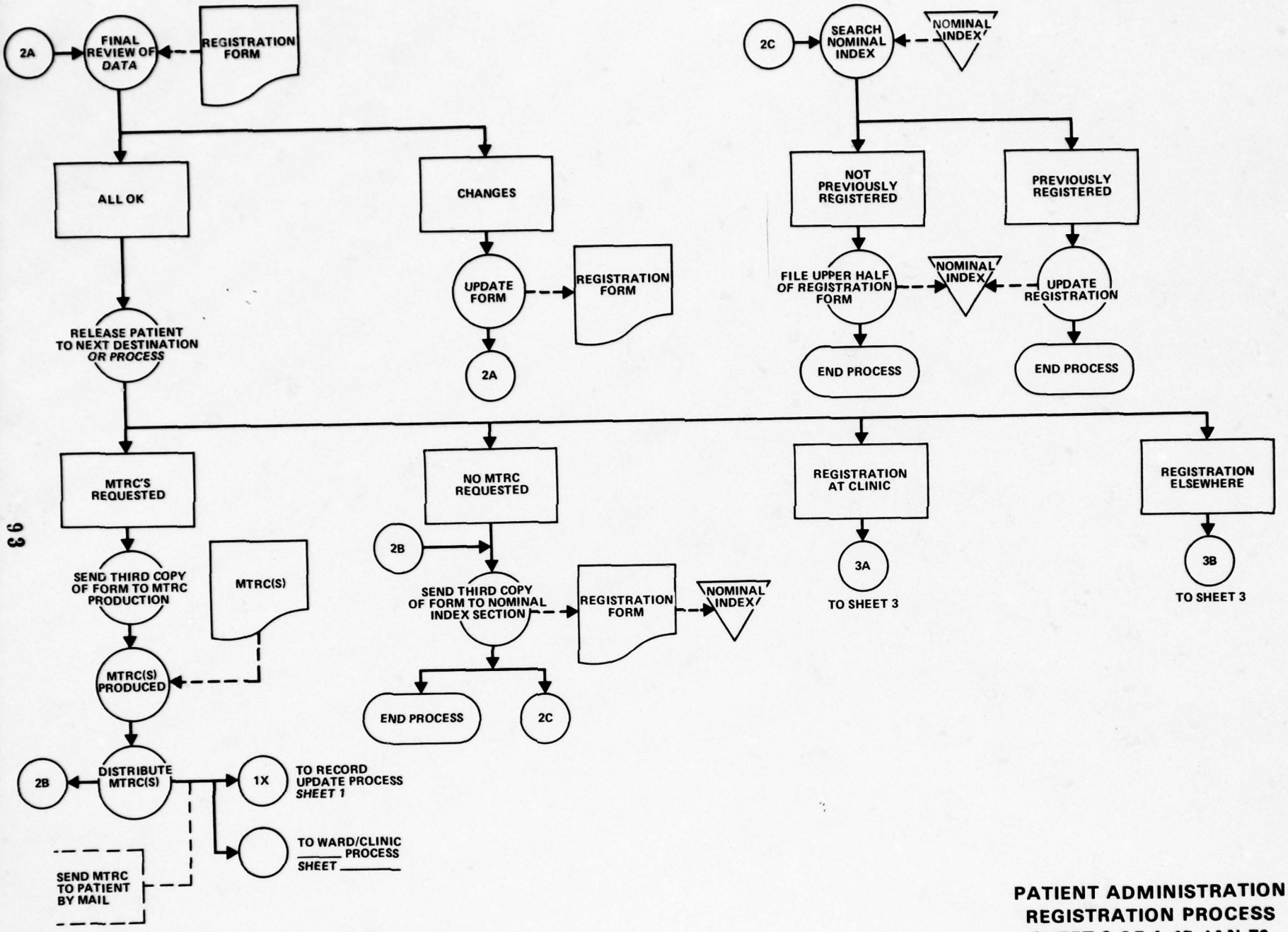
PATIENT ADMINISTRATION
MEDICAL RECORD MANAGEMENT
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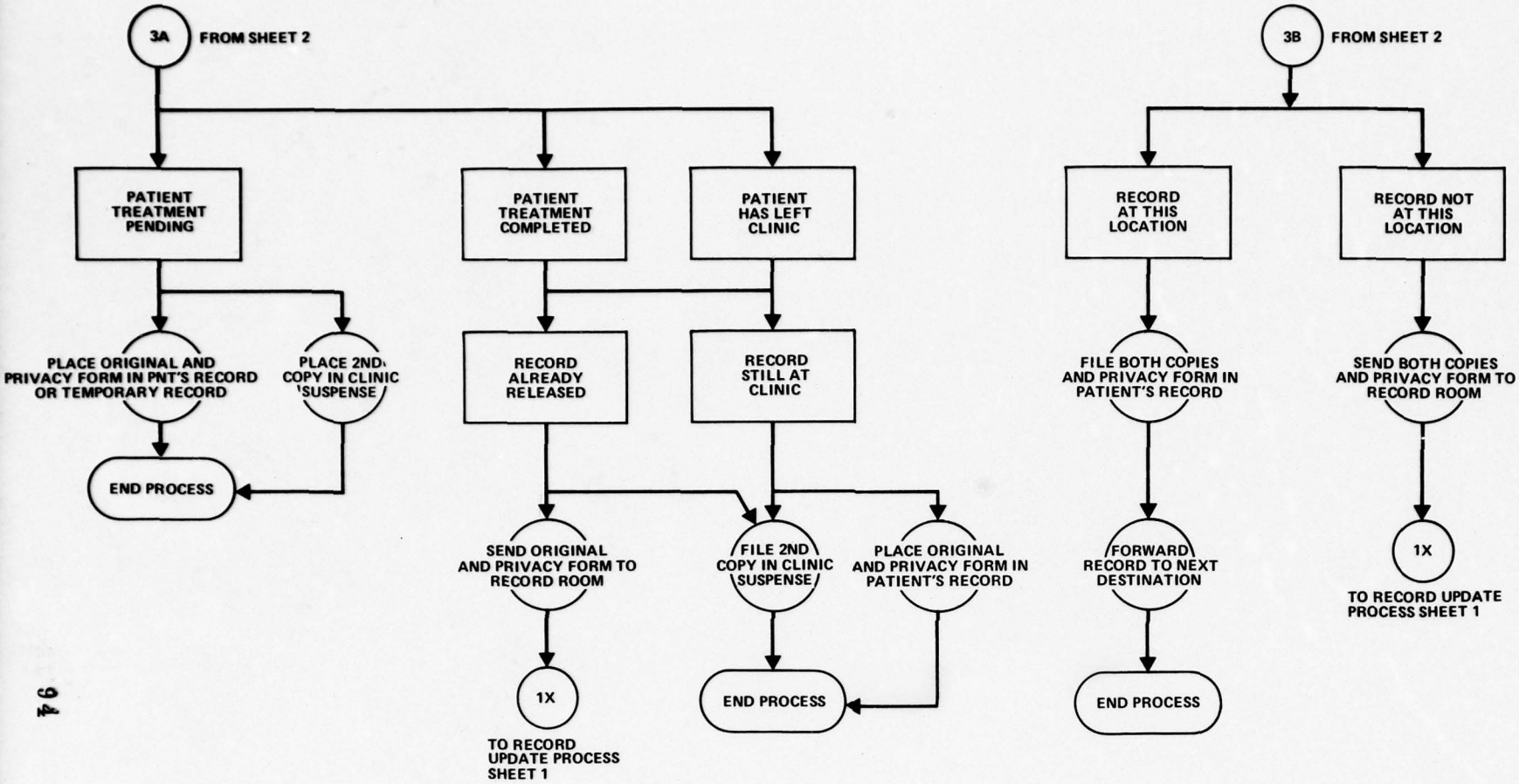
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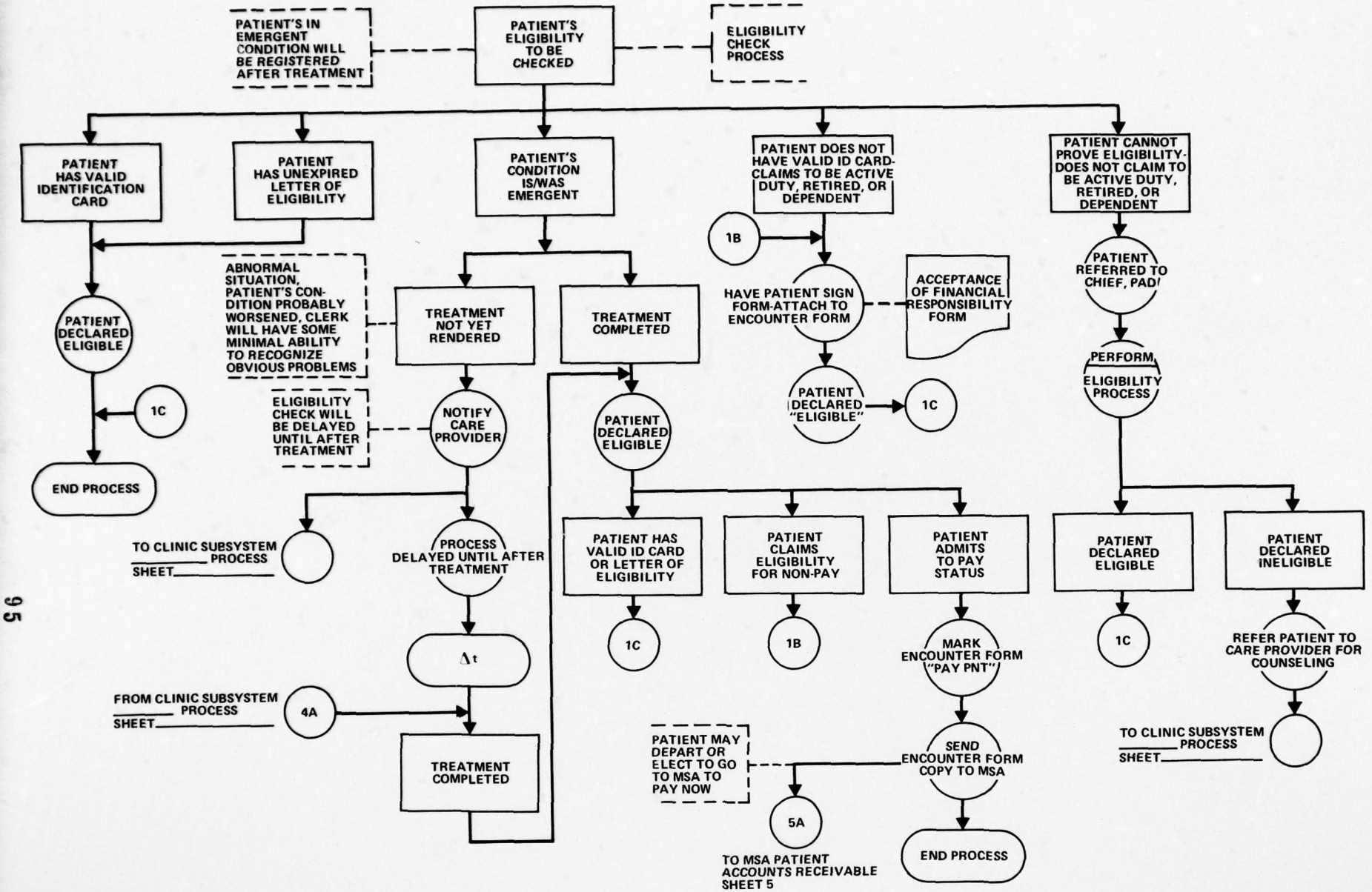


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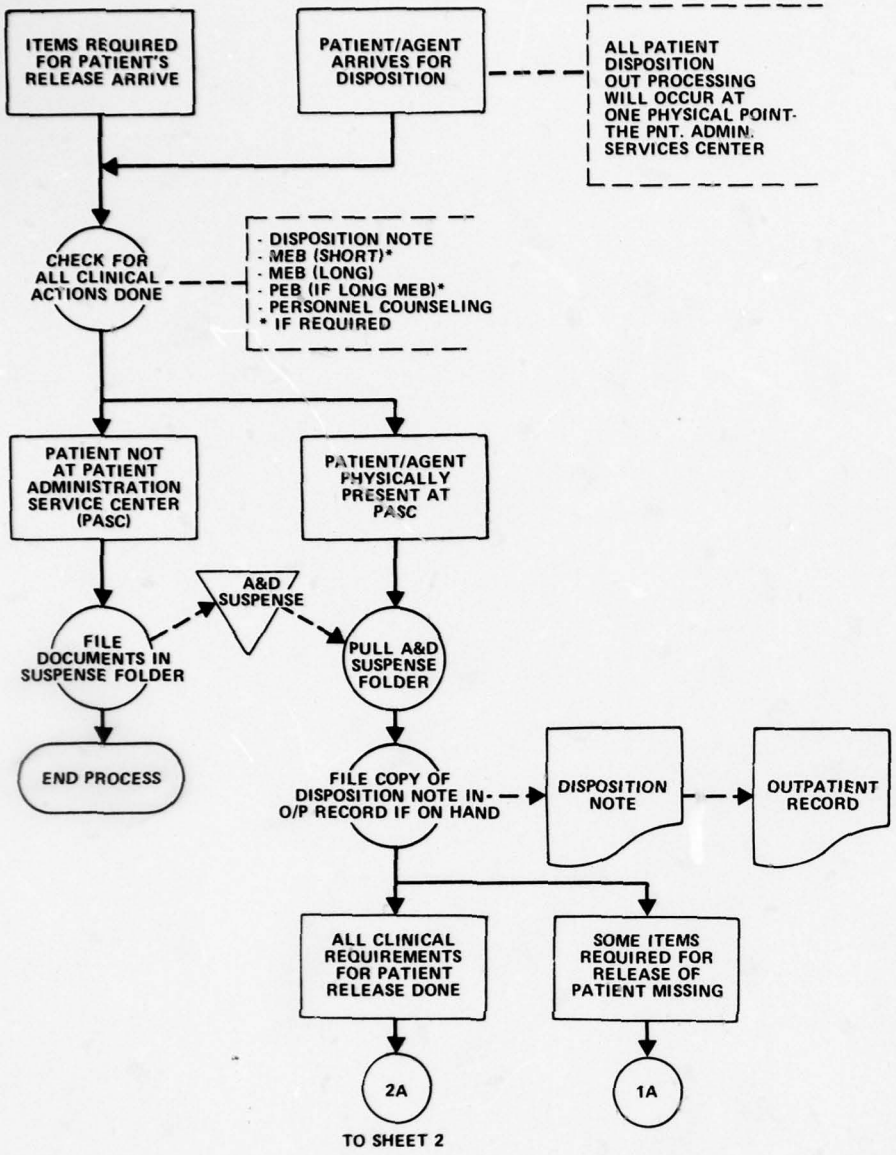


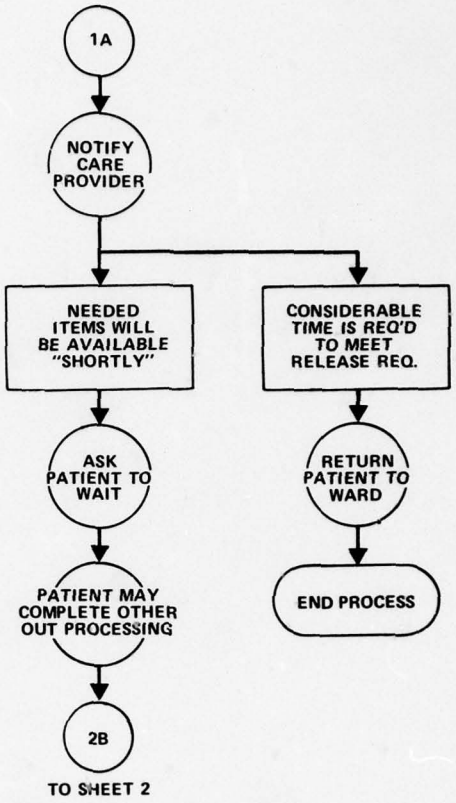
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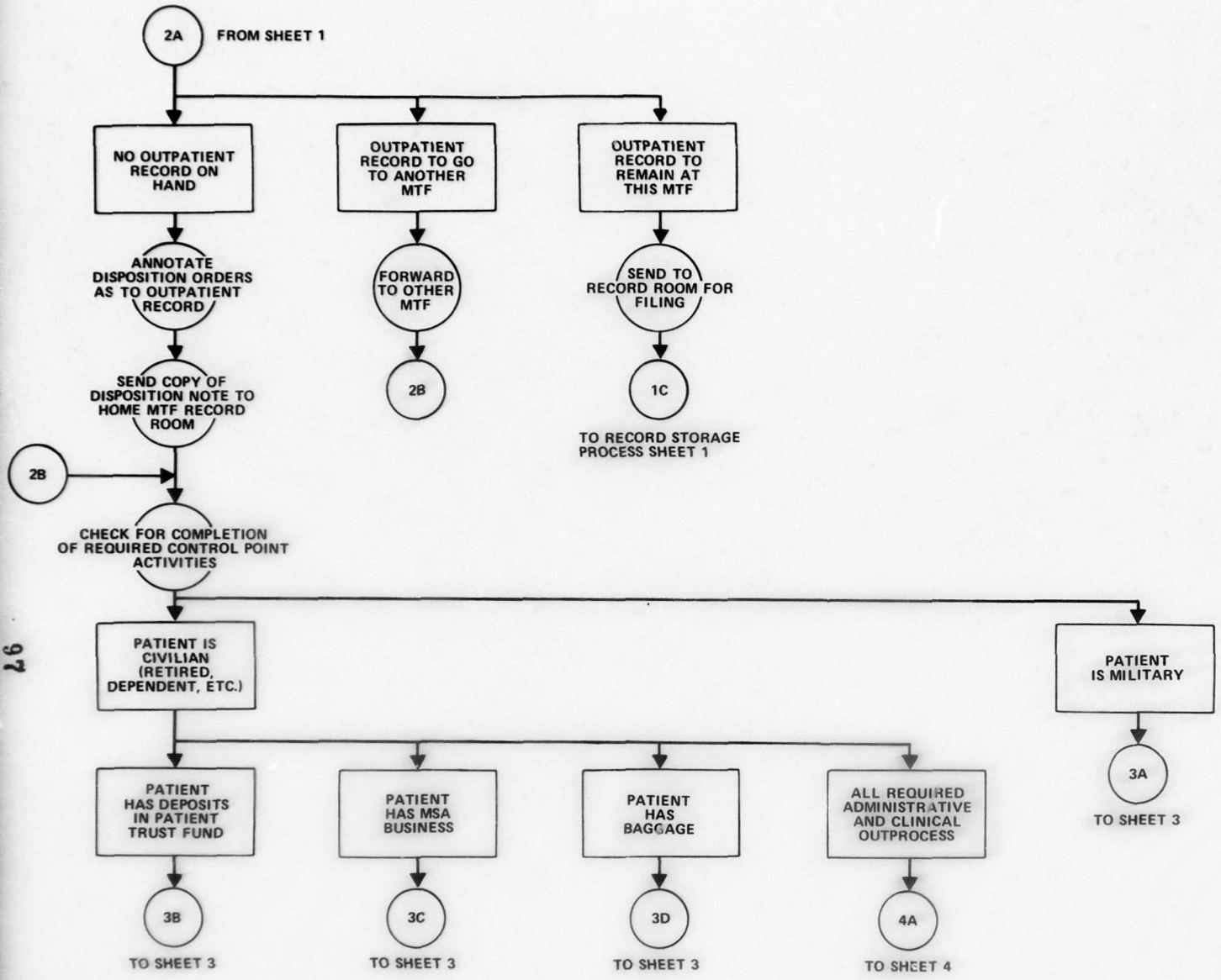


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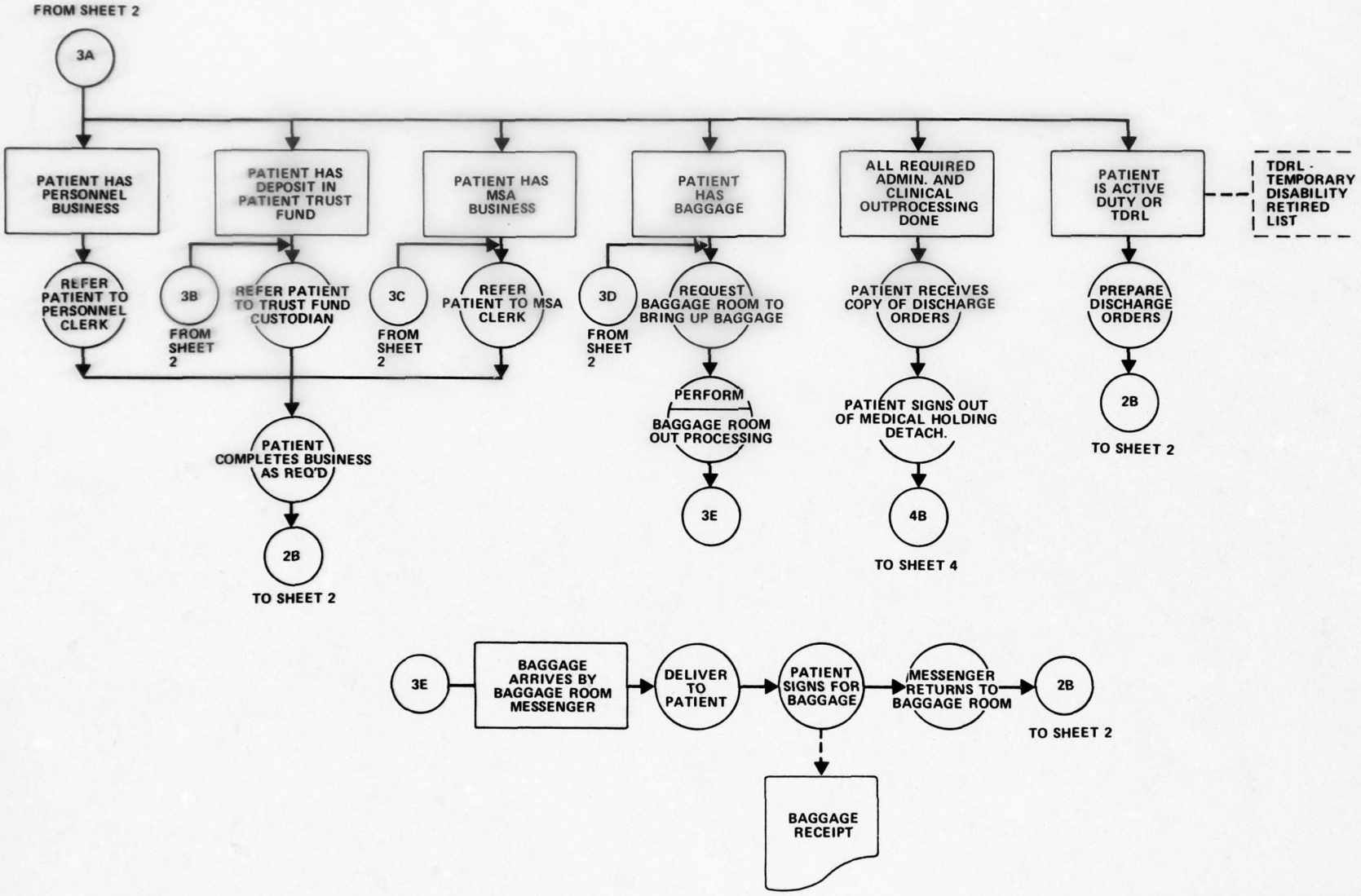




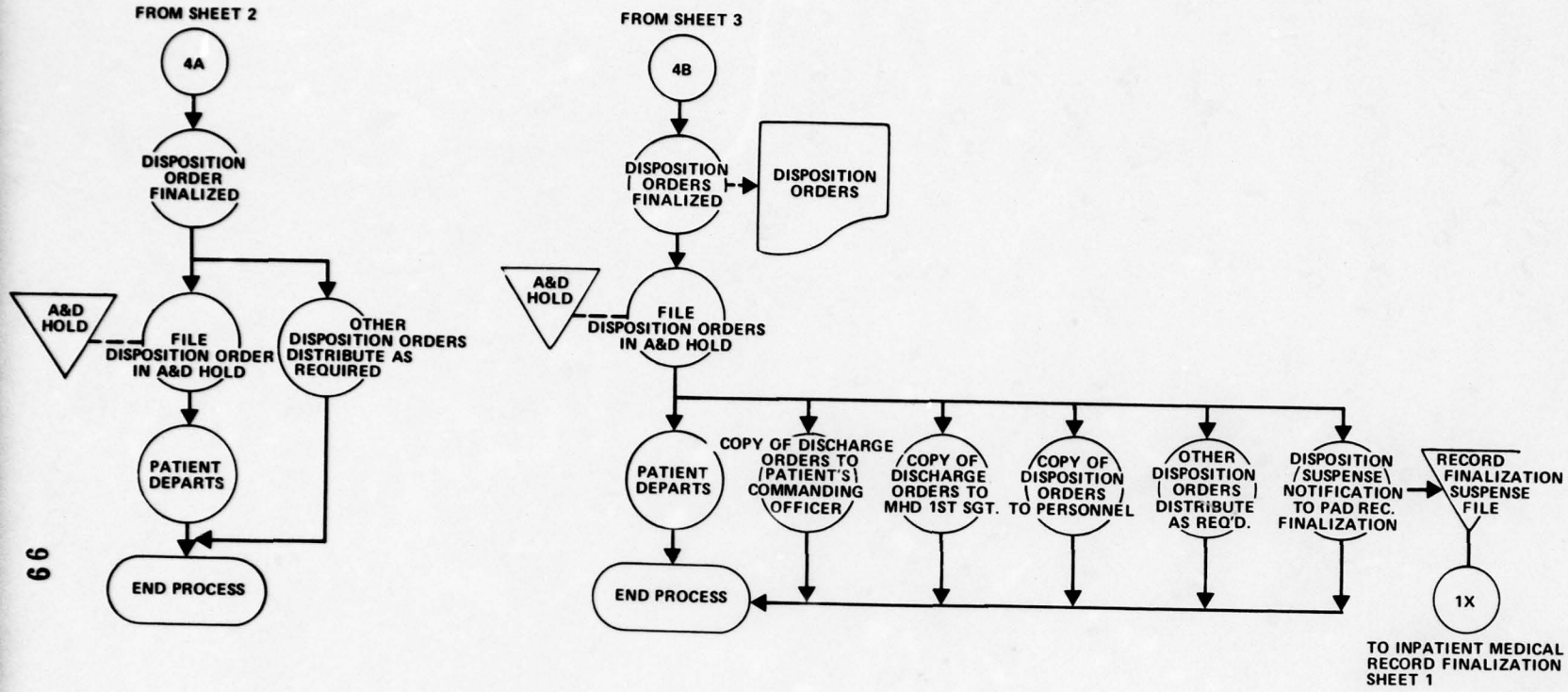
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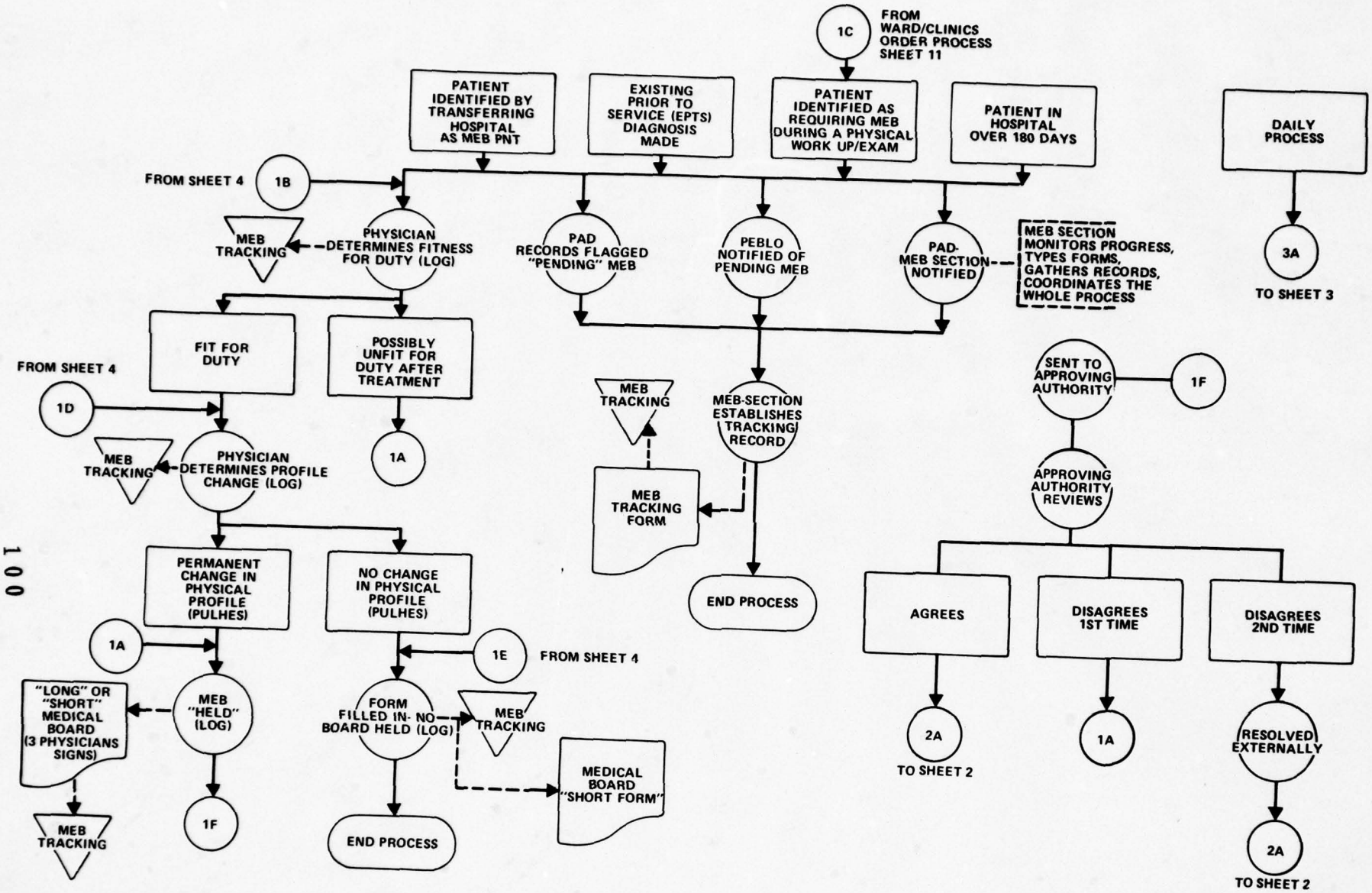
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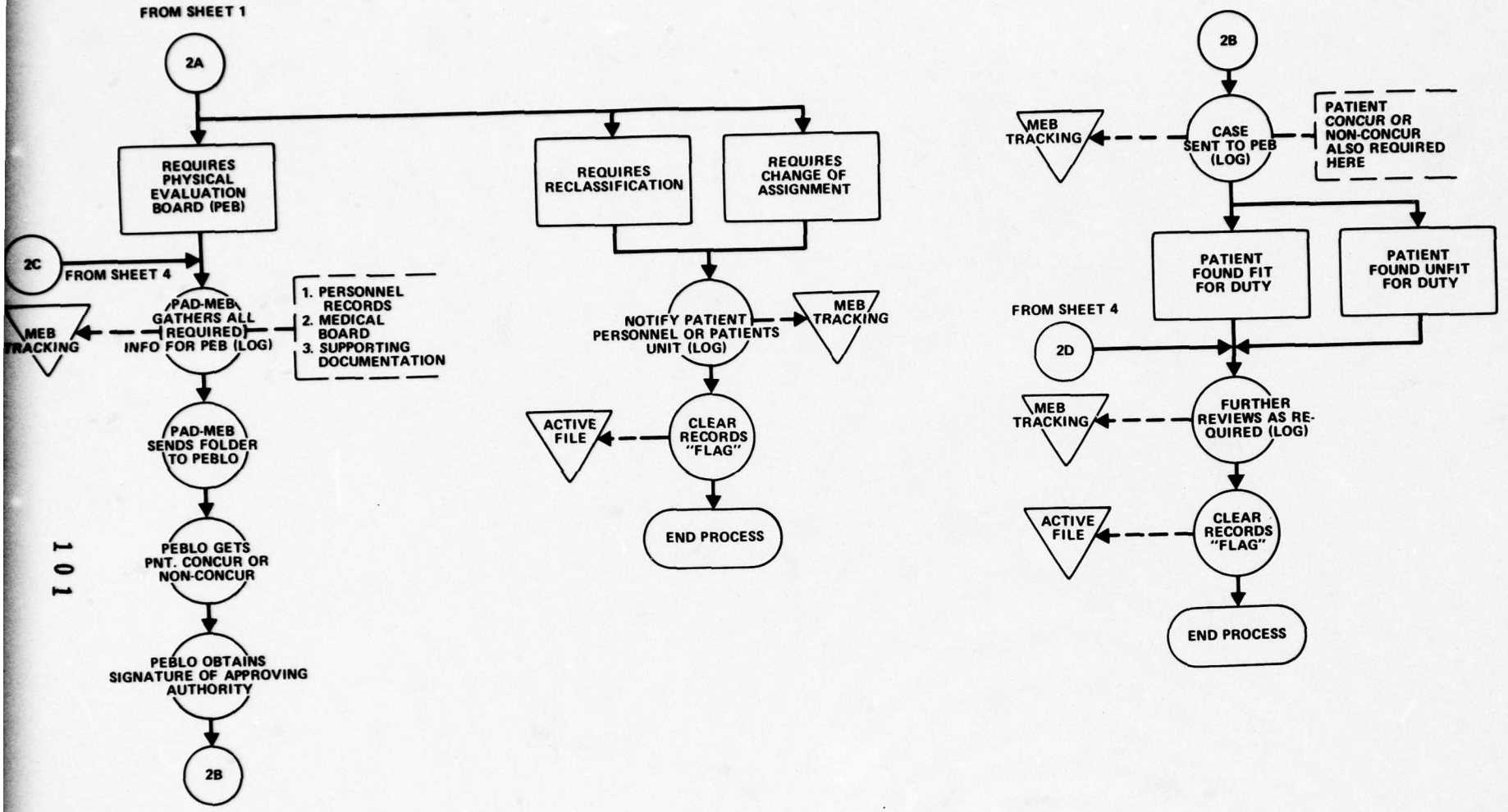


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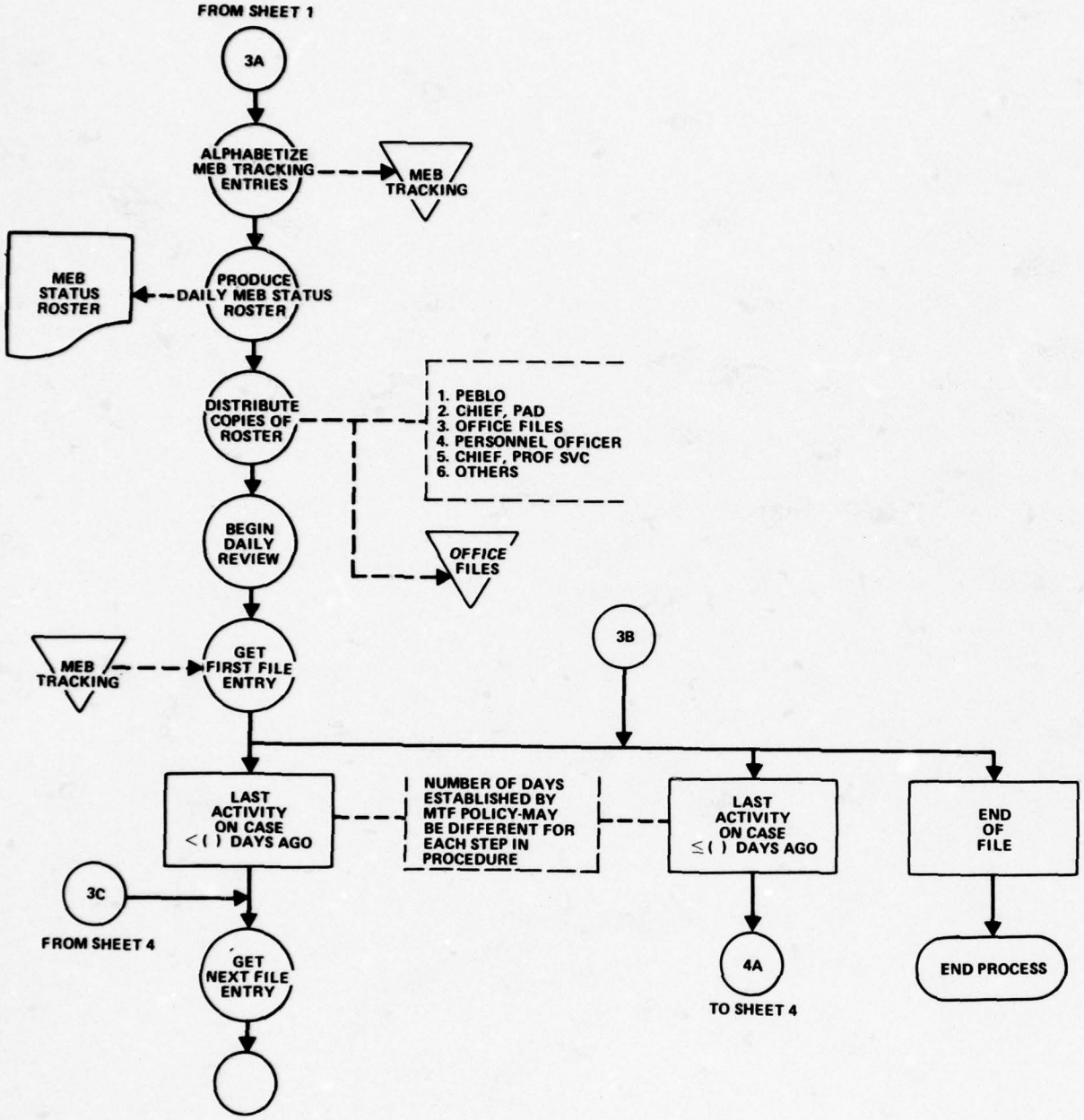
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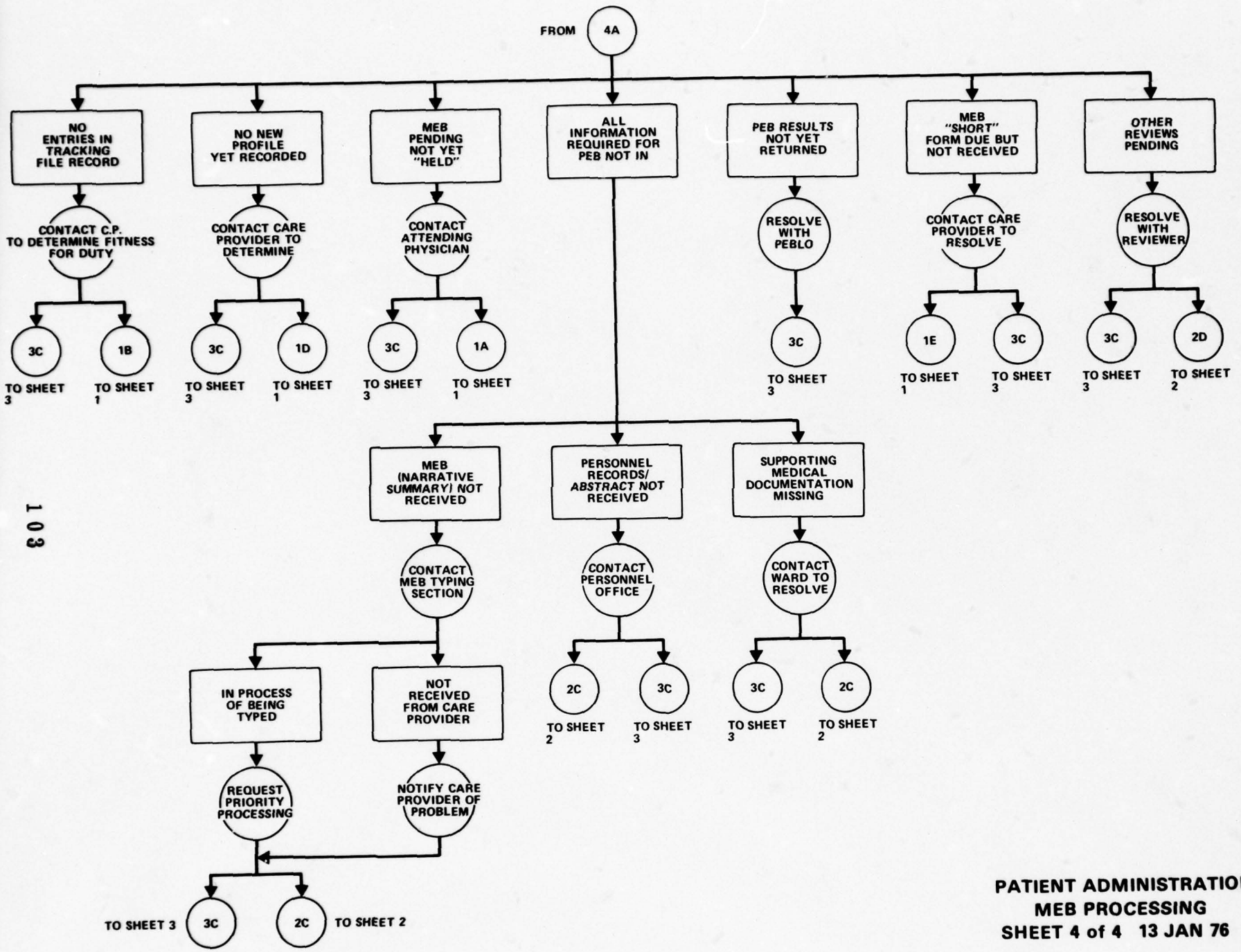


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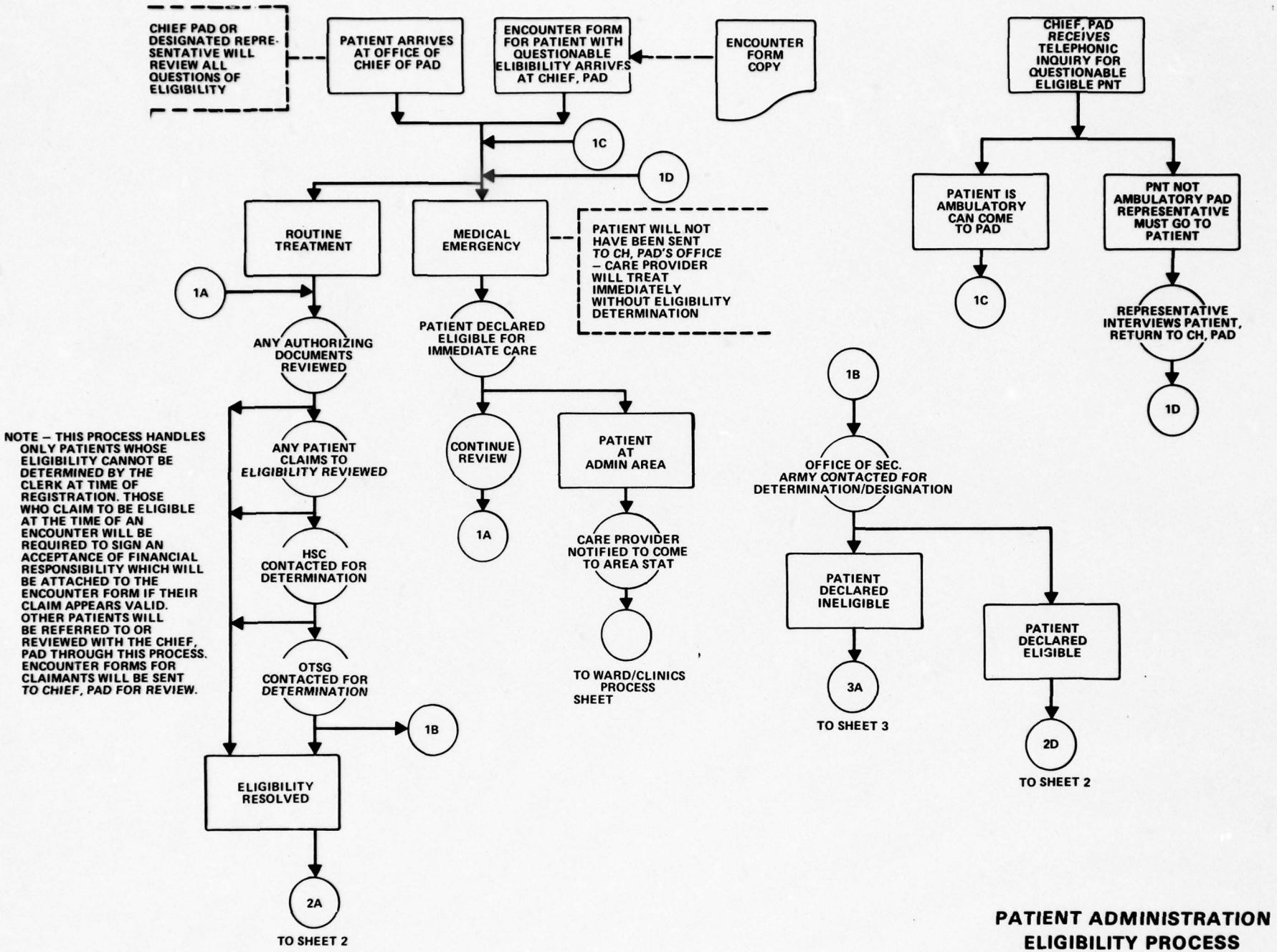
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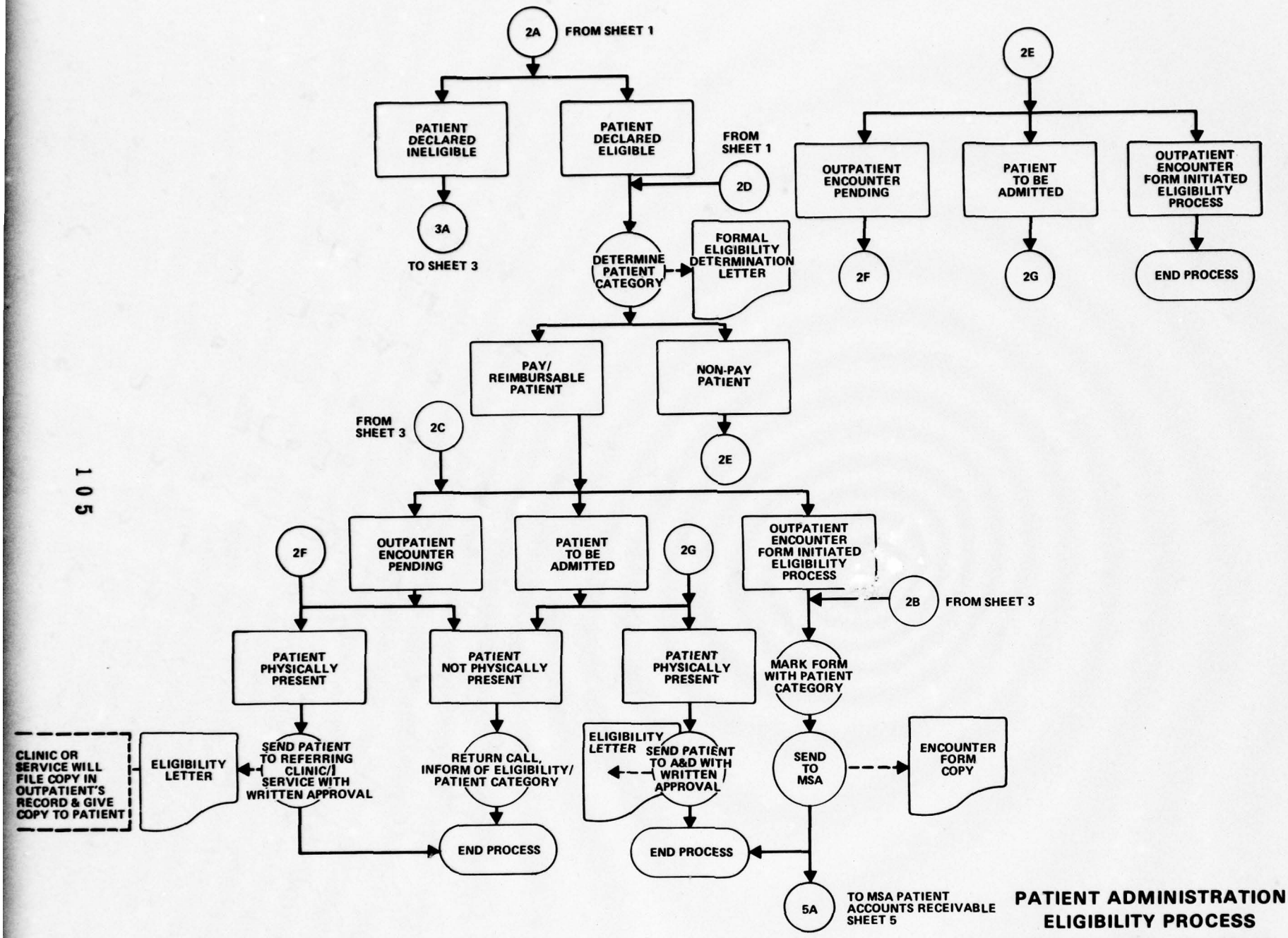
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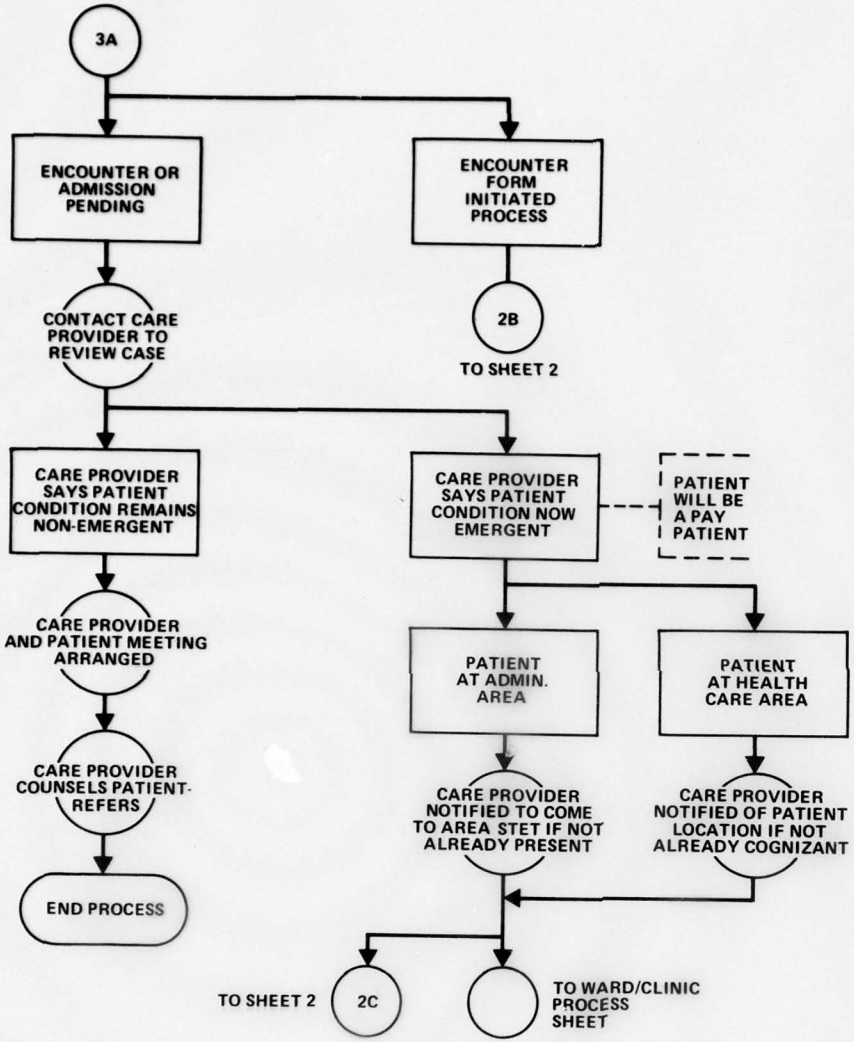
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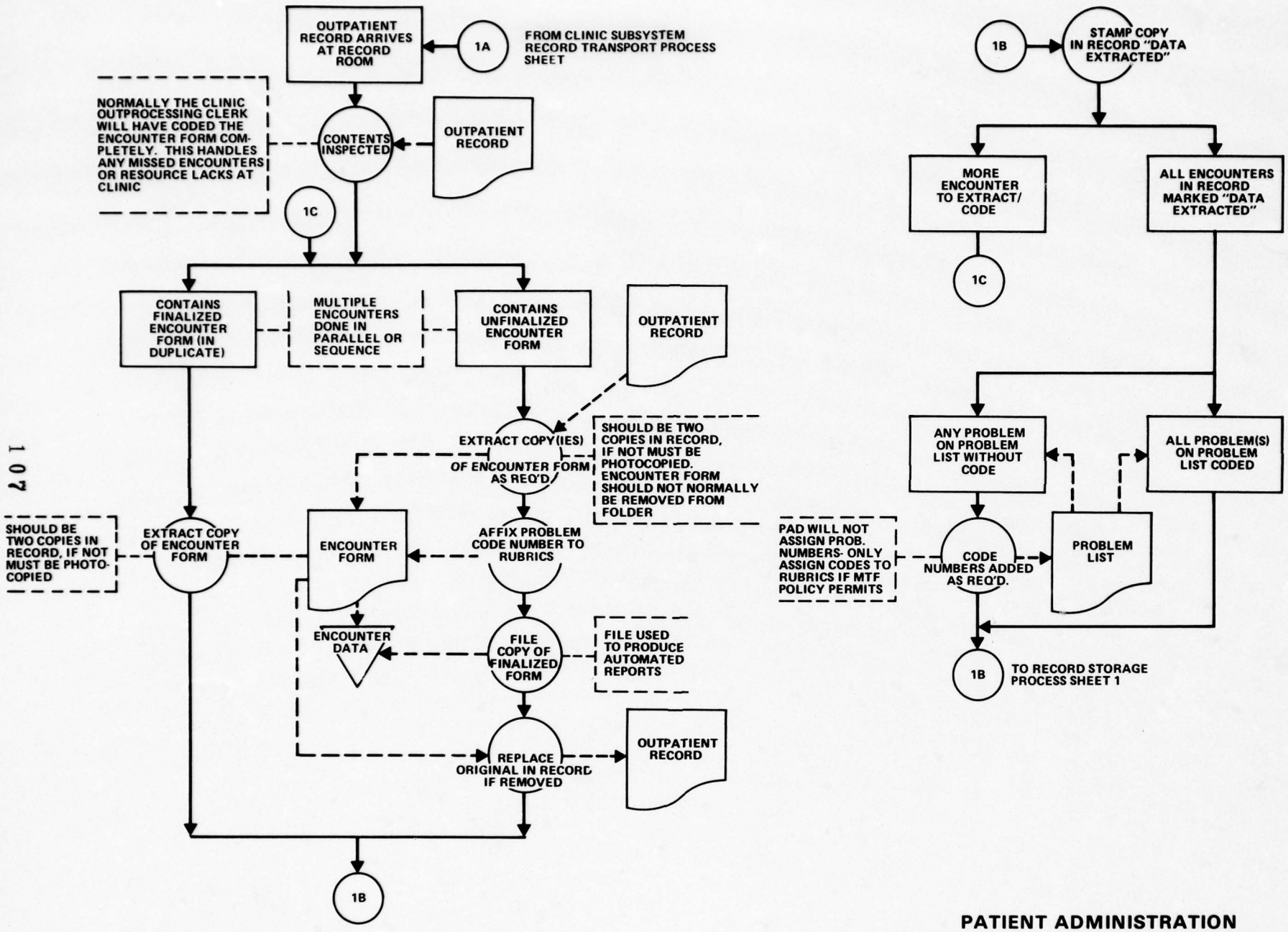
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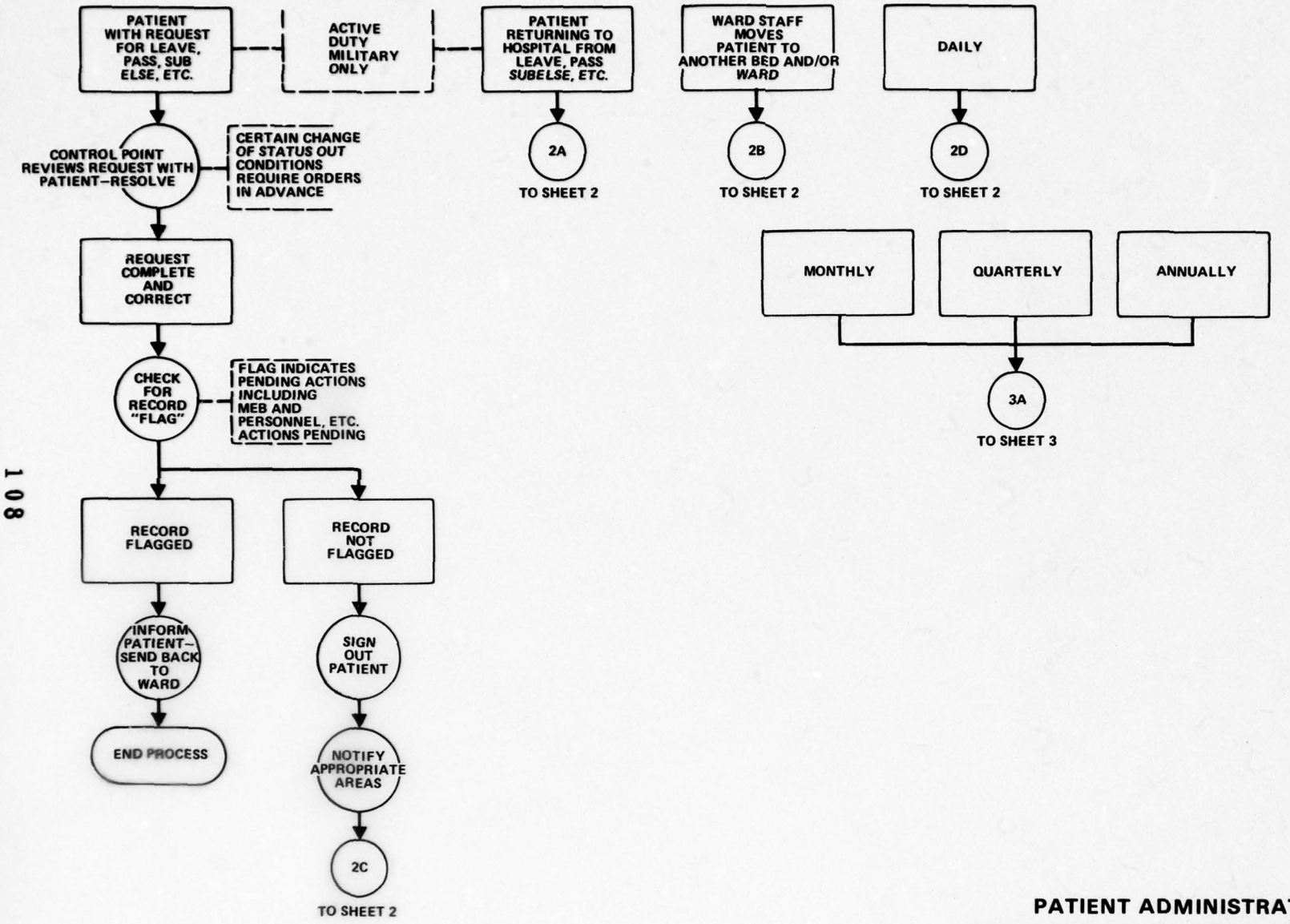
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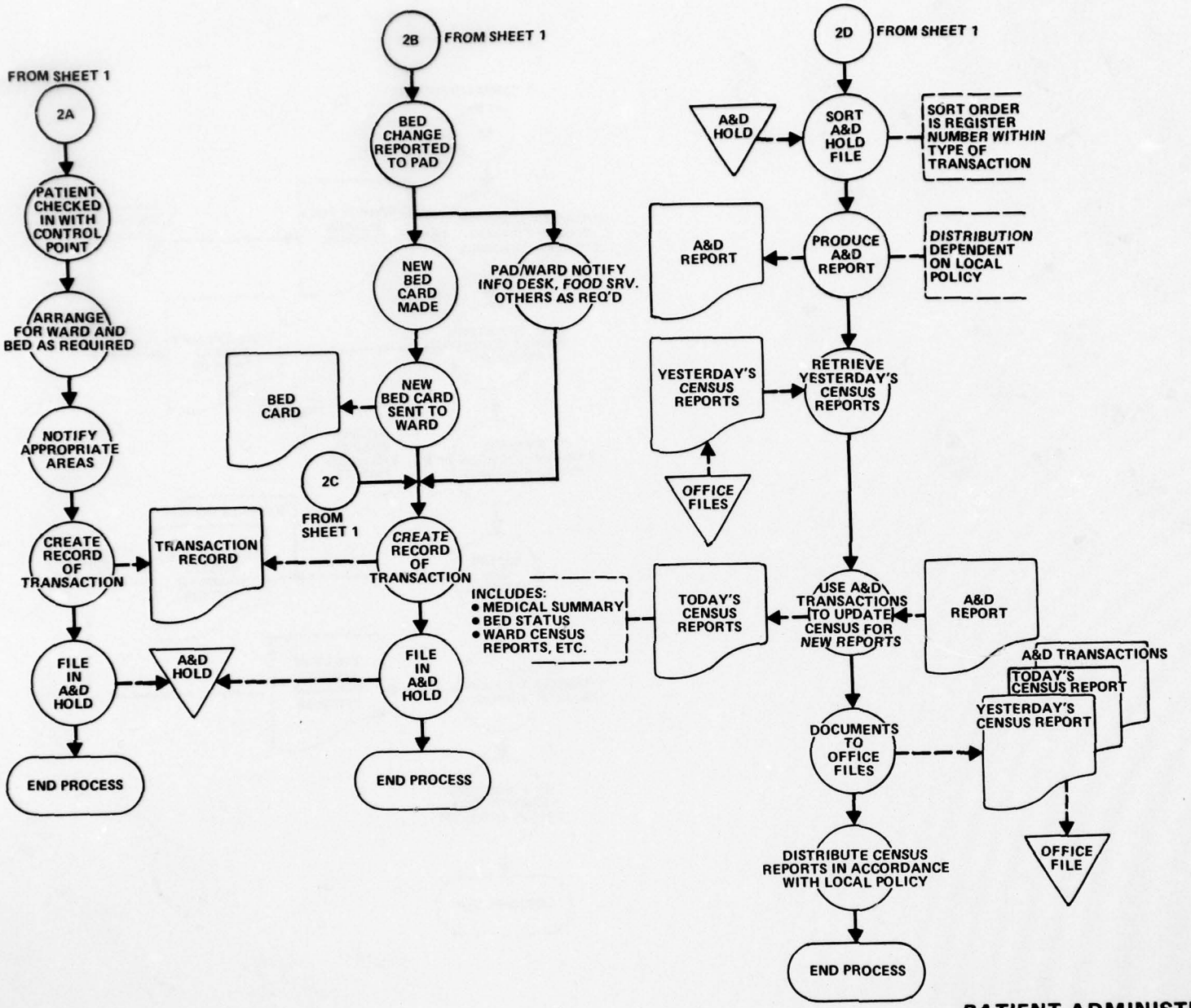
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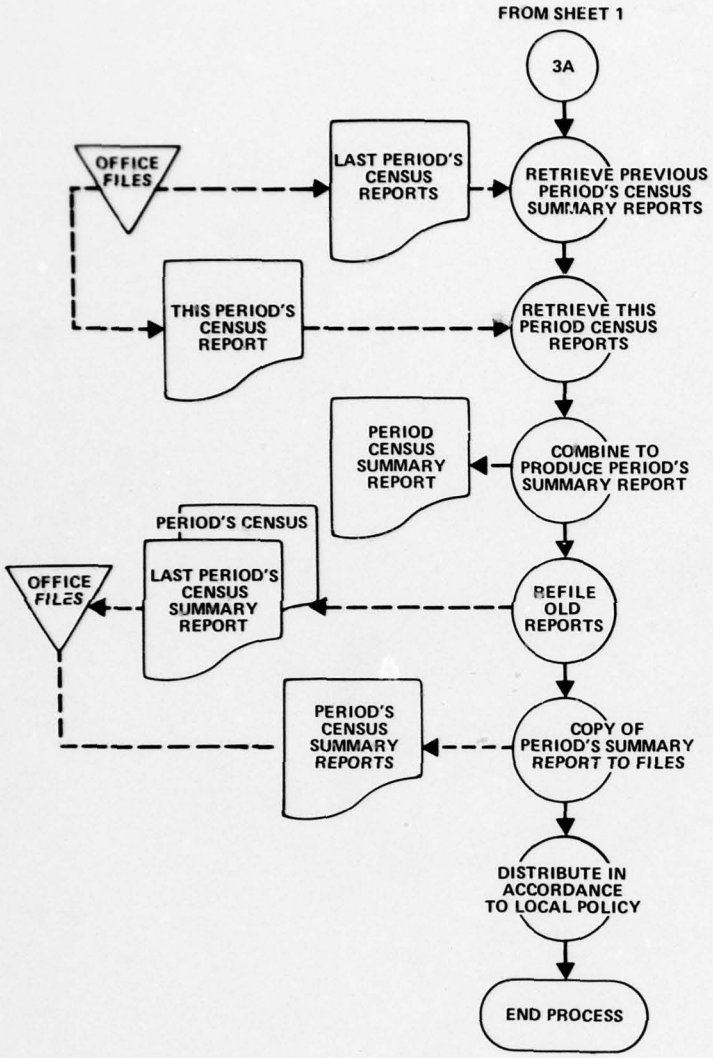
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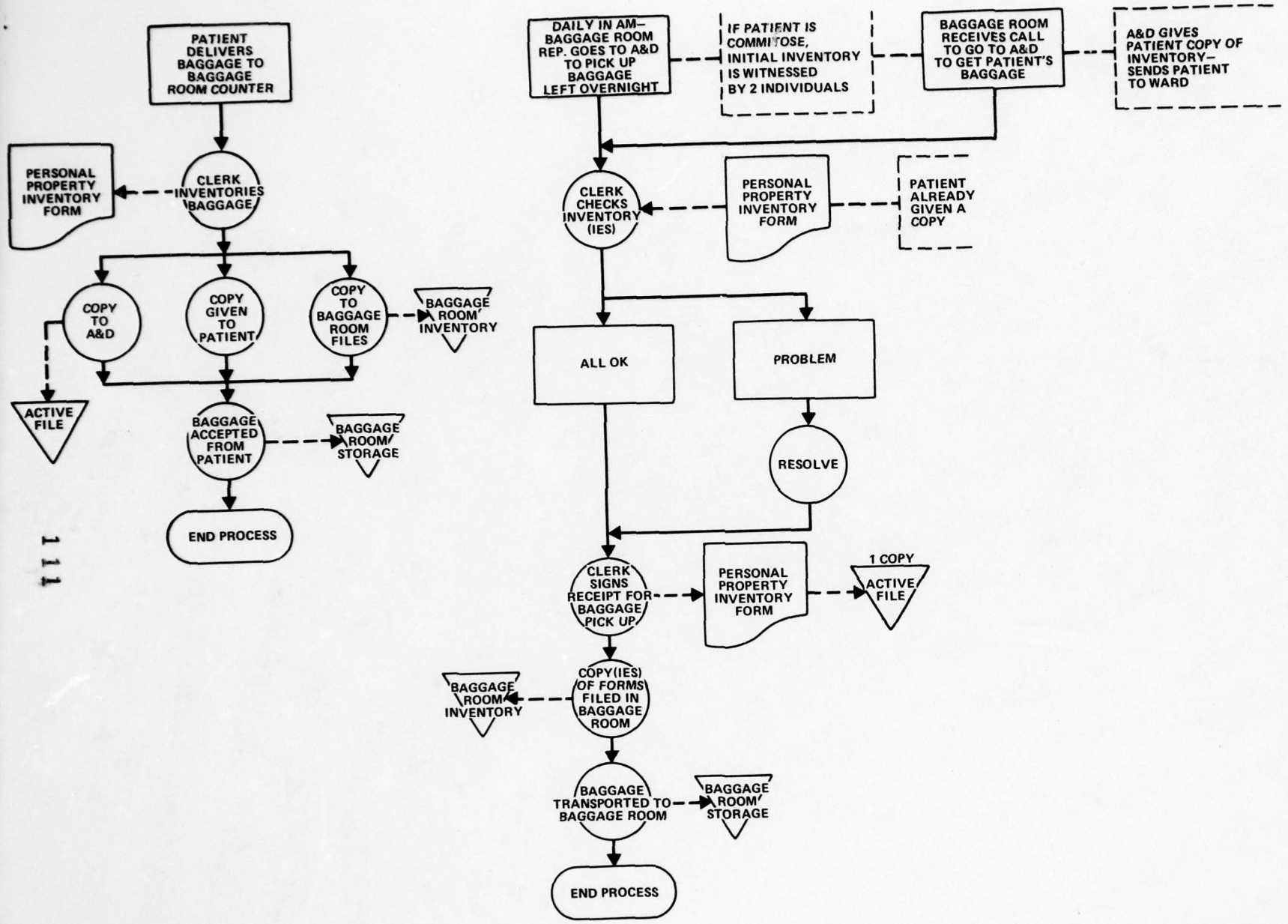
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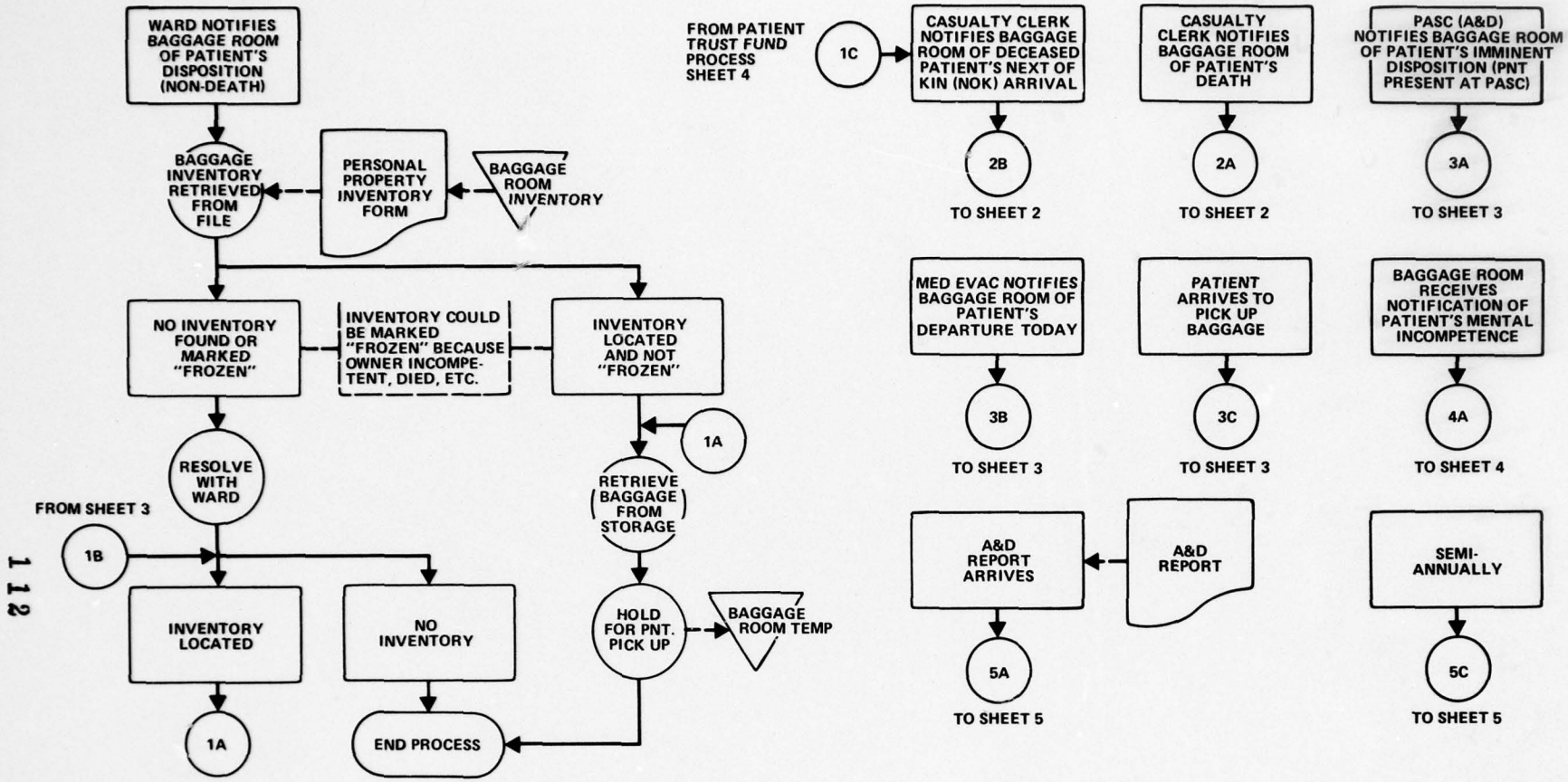


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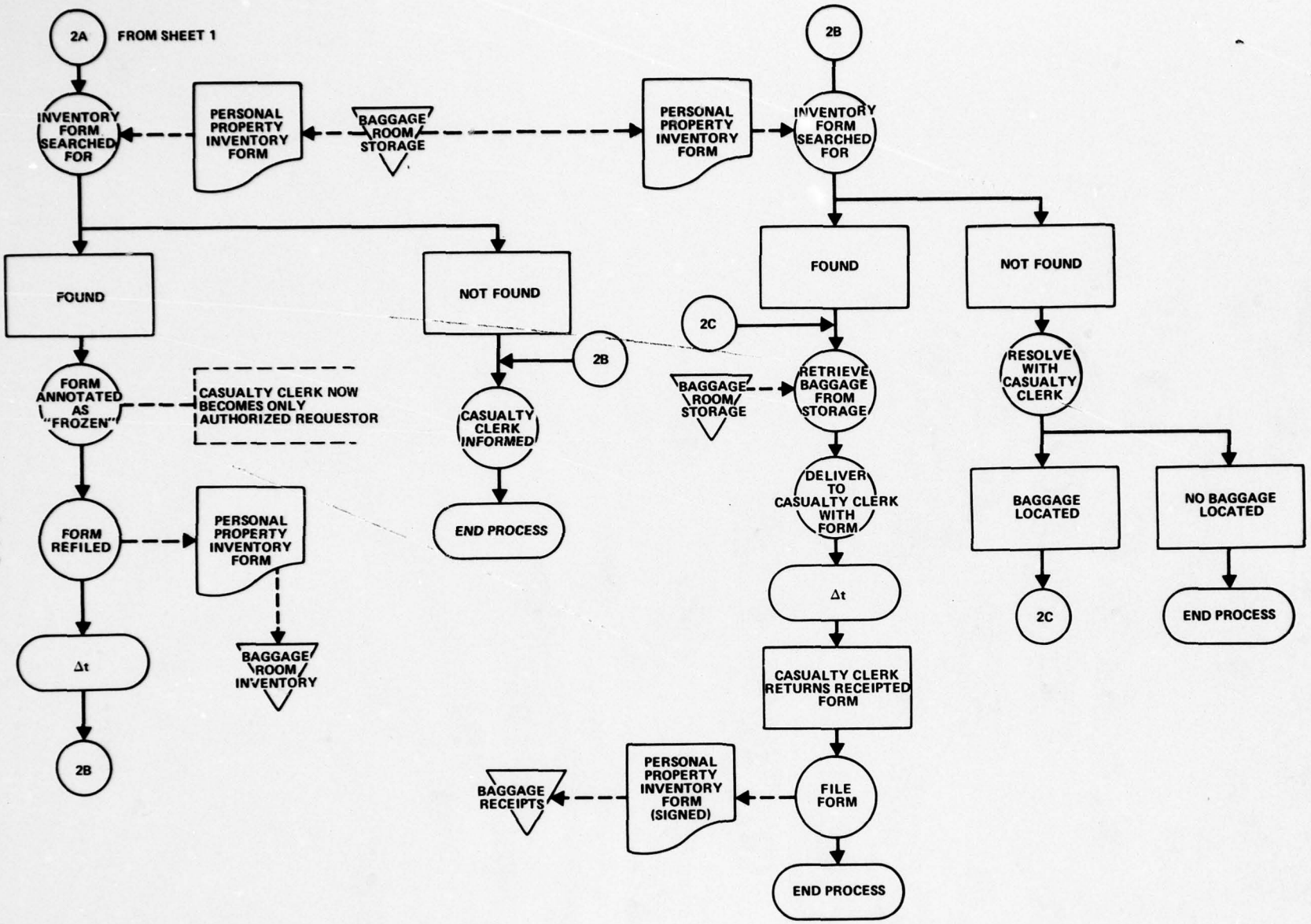


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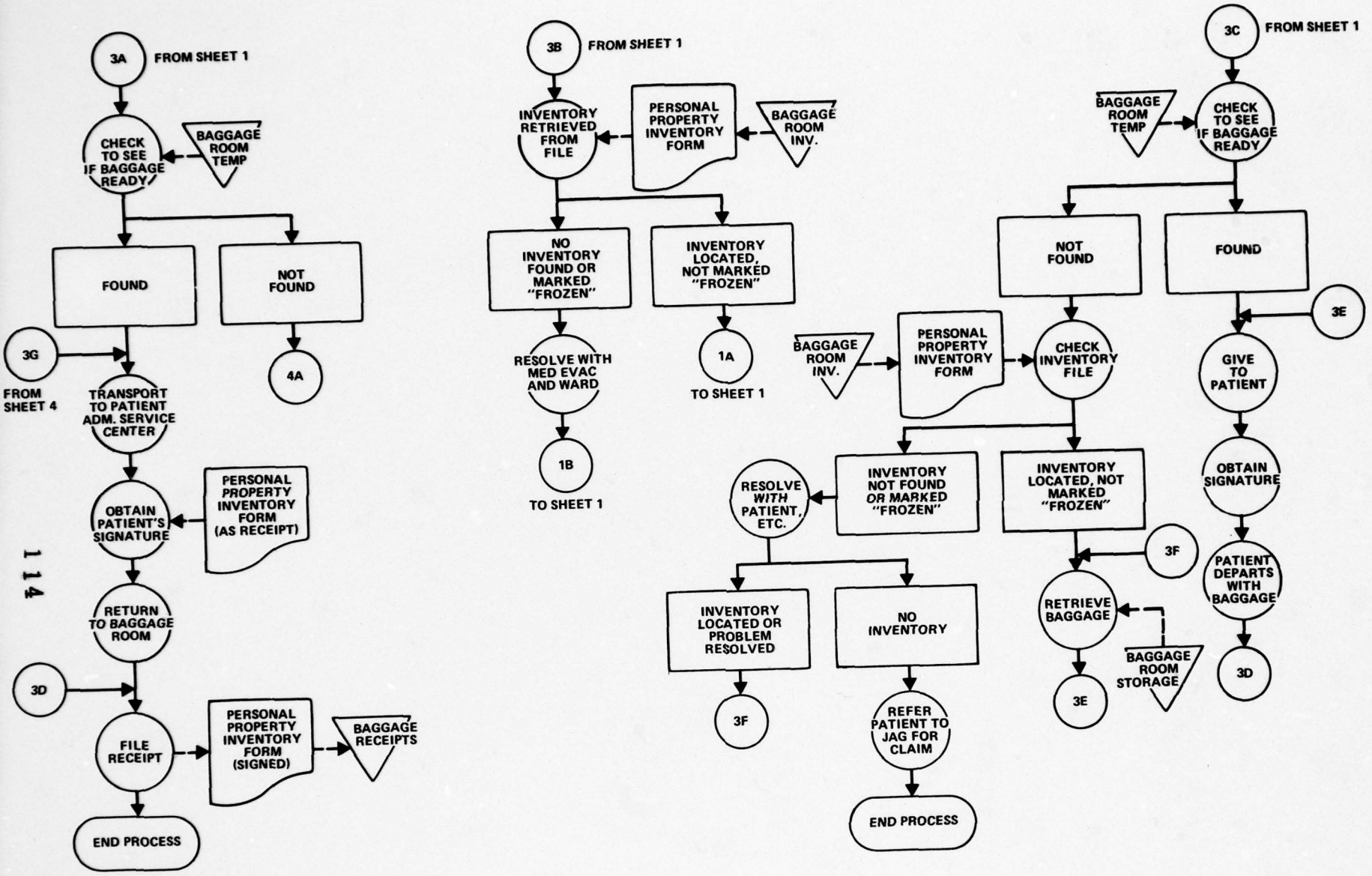
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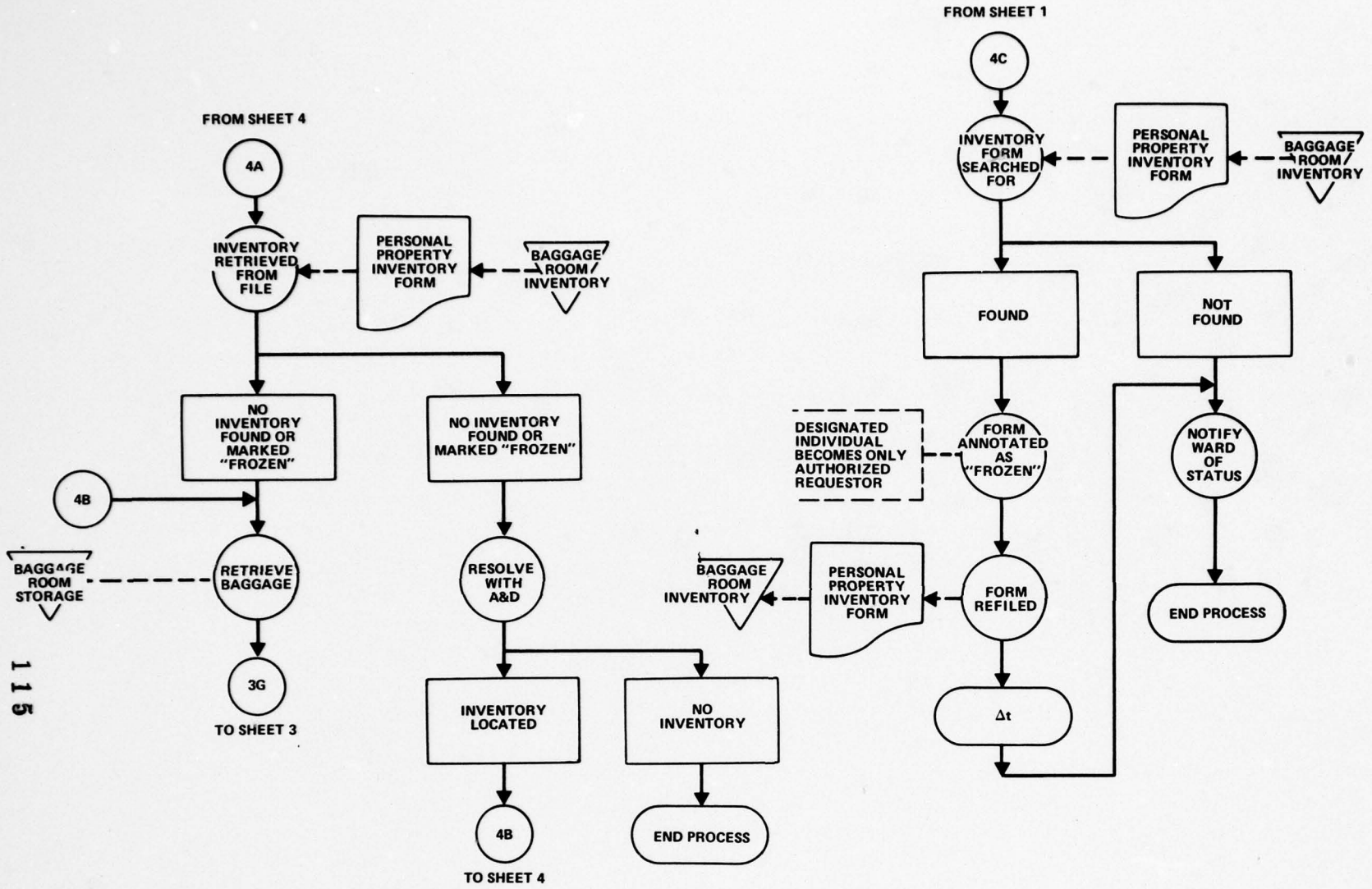


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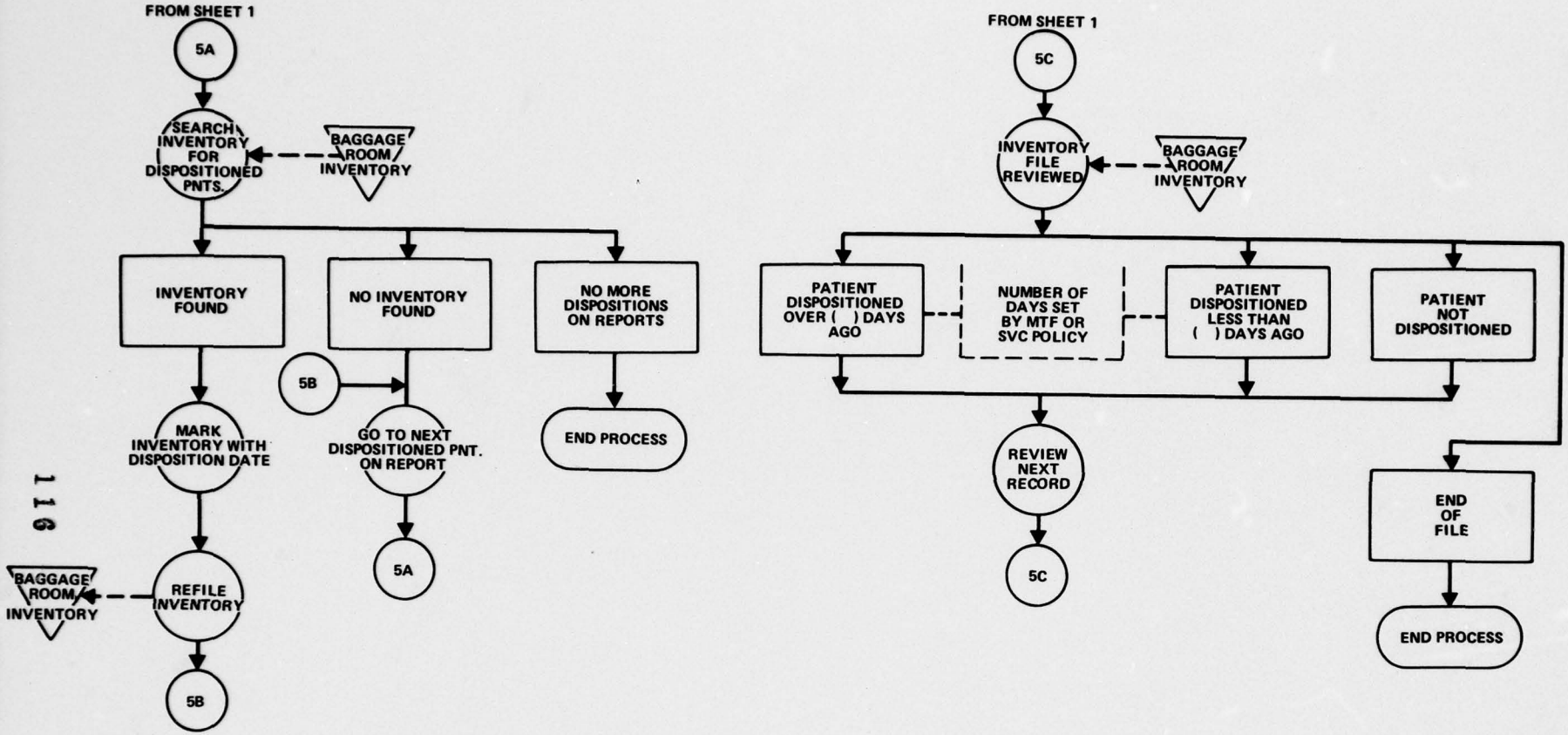


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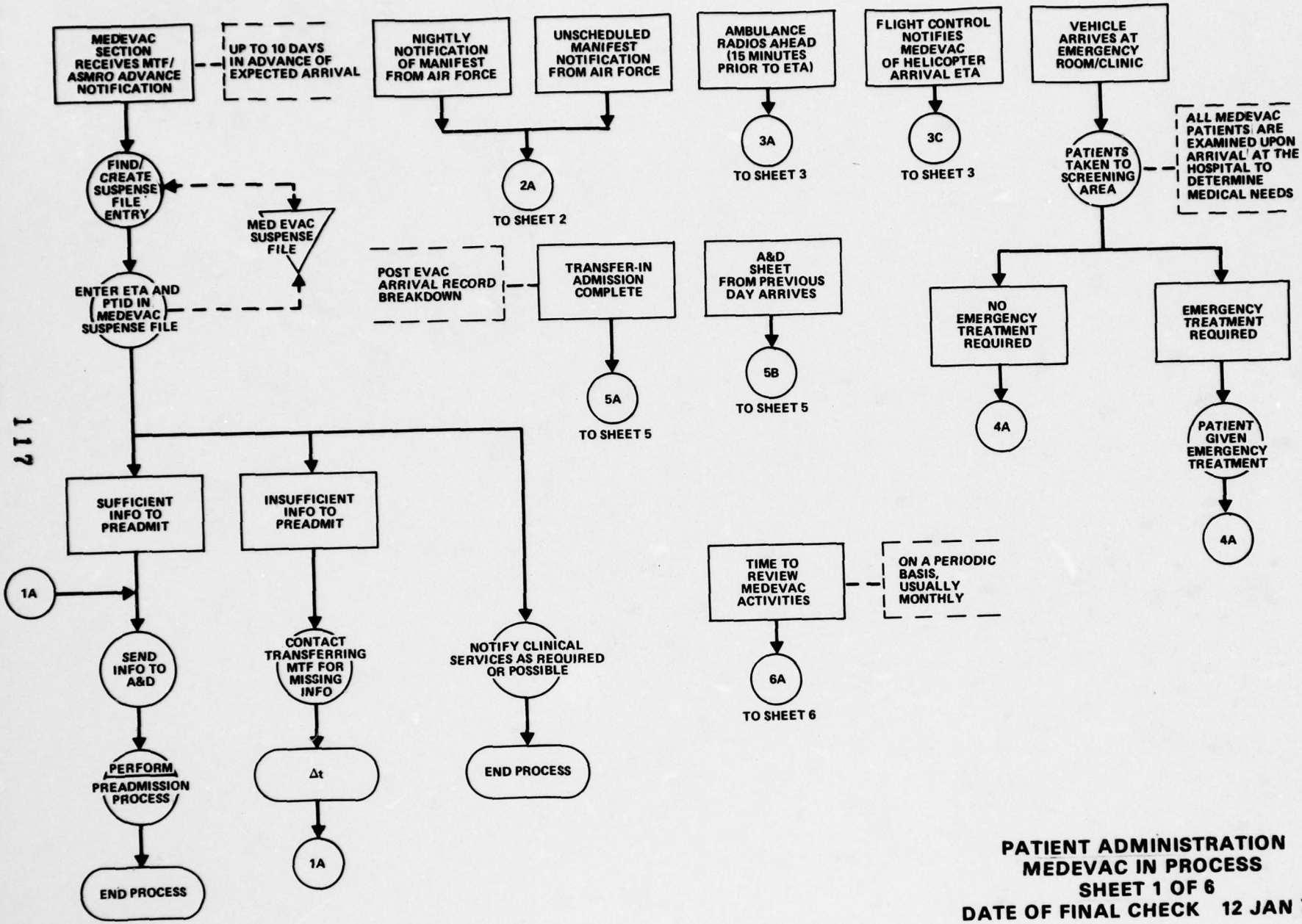
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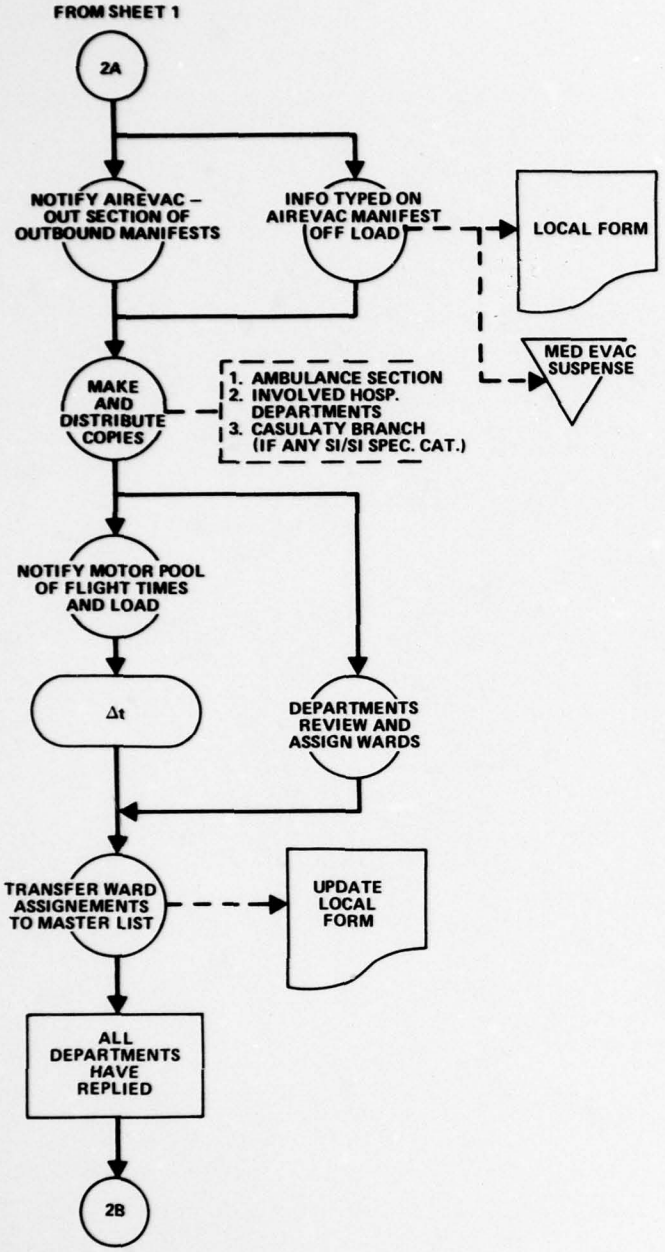
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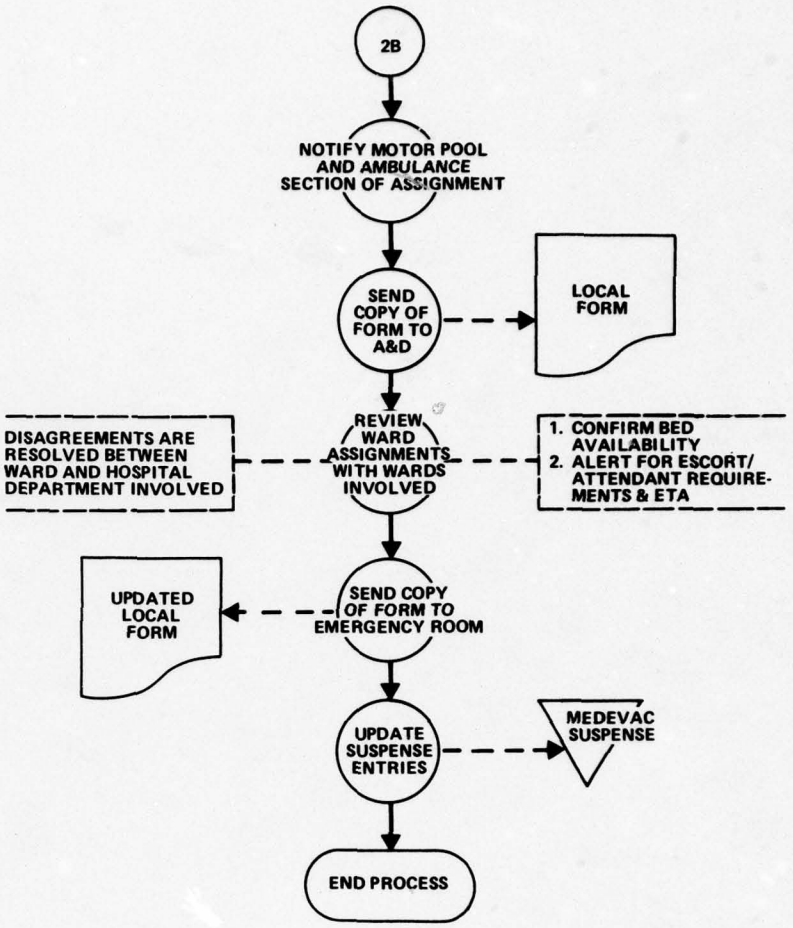


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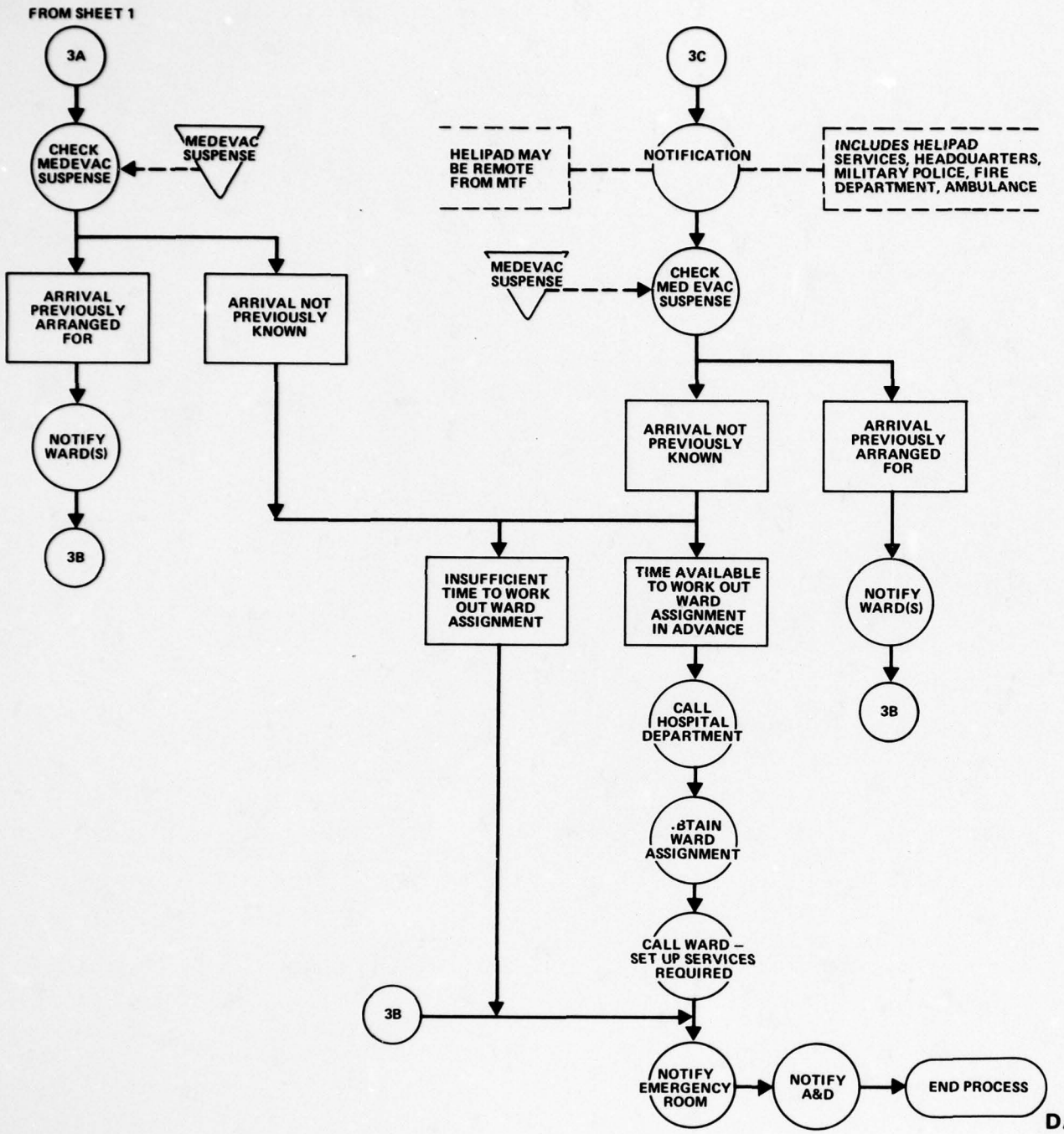


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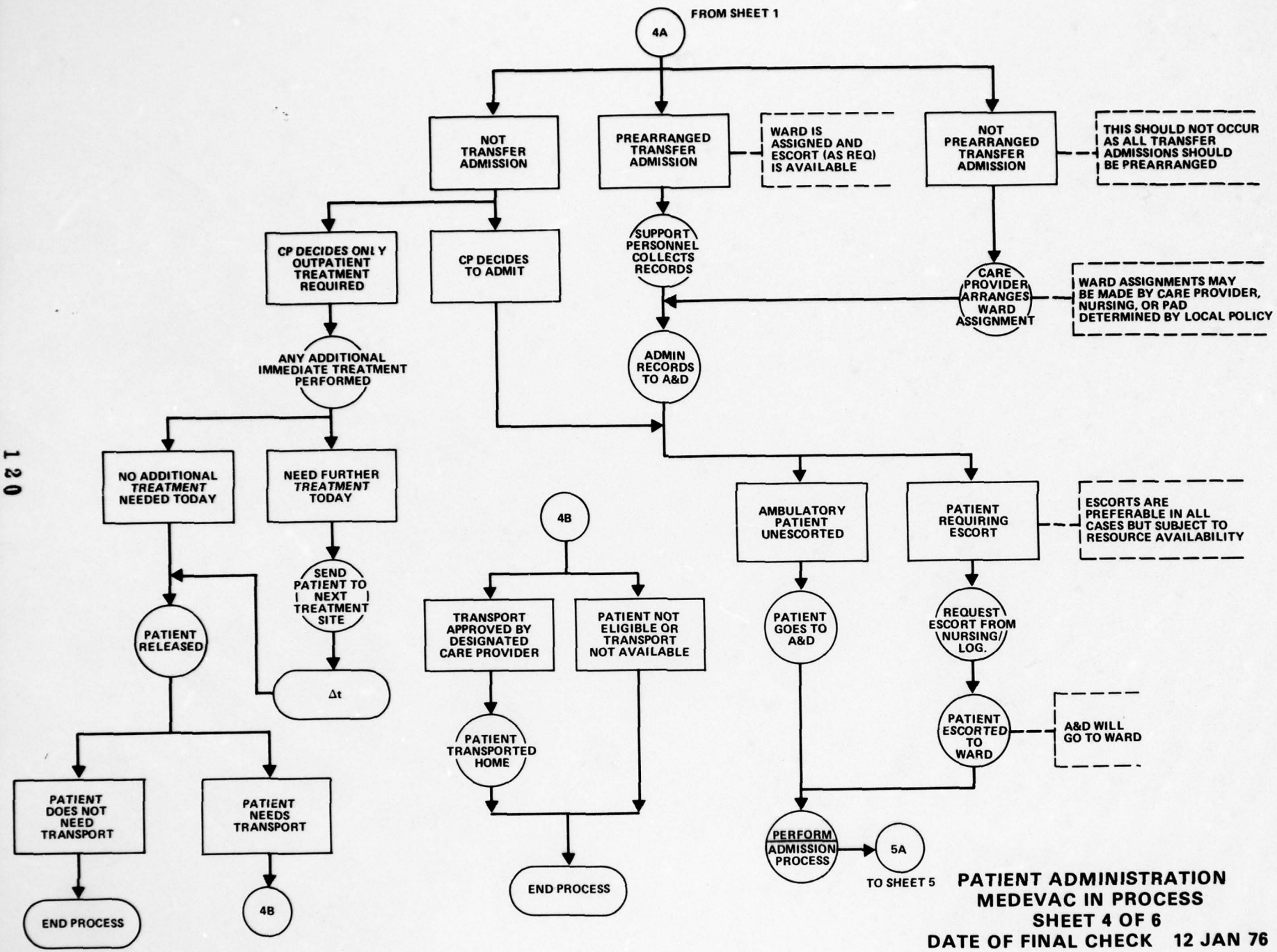




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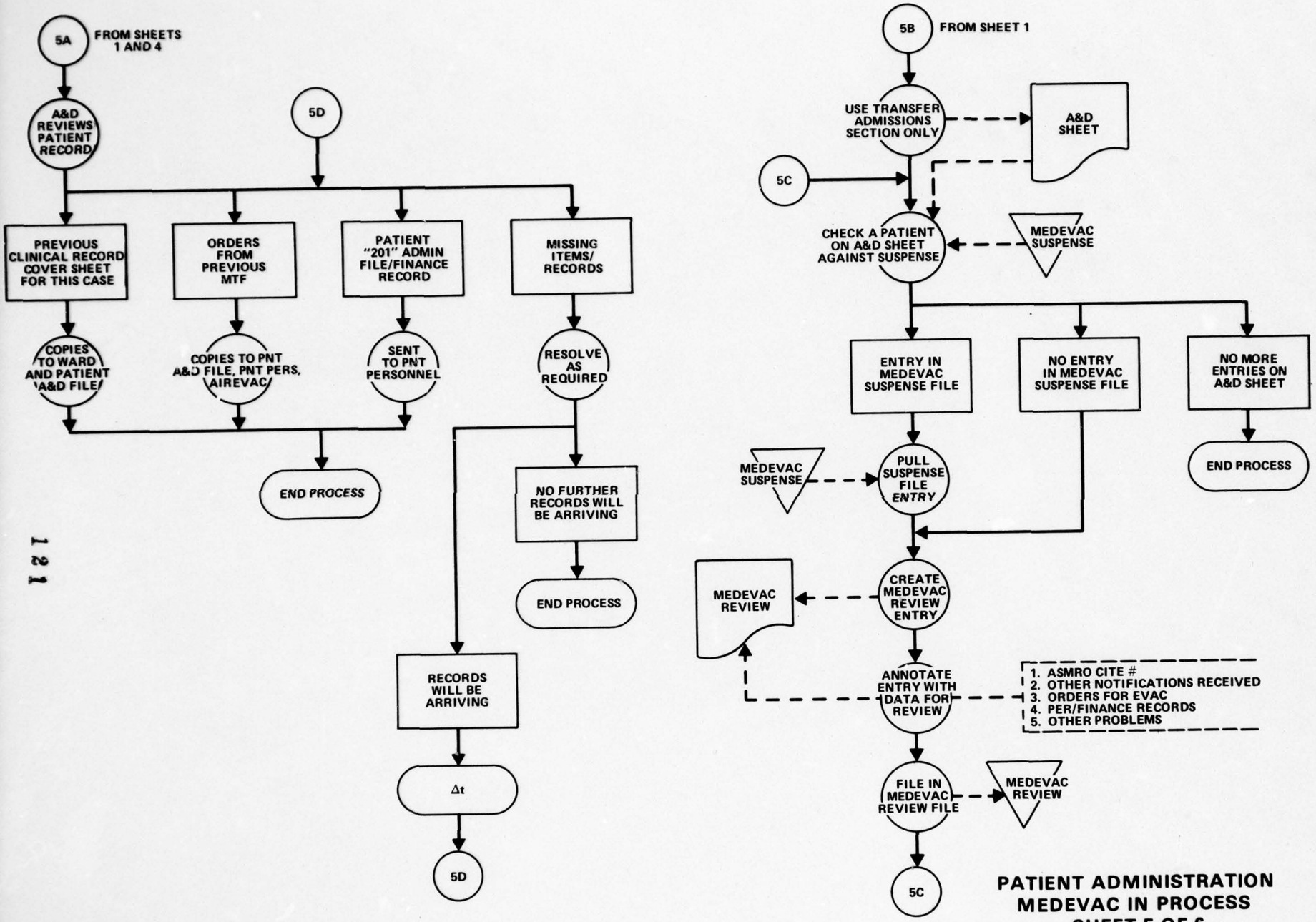


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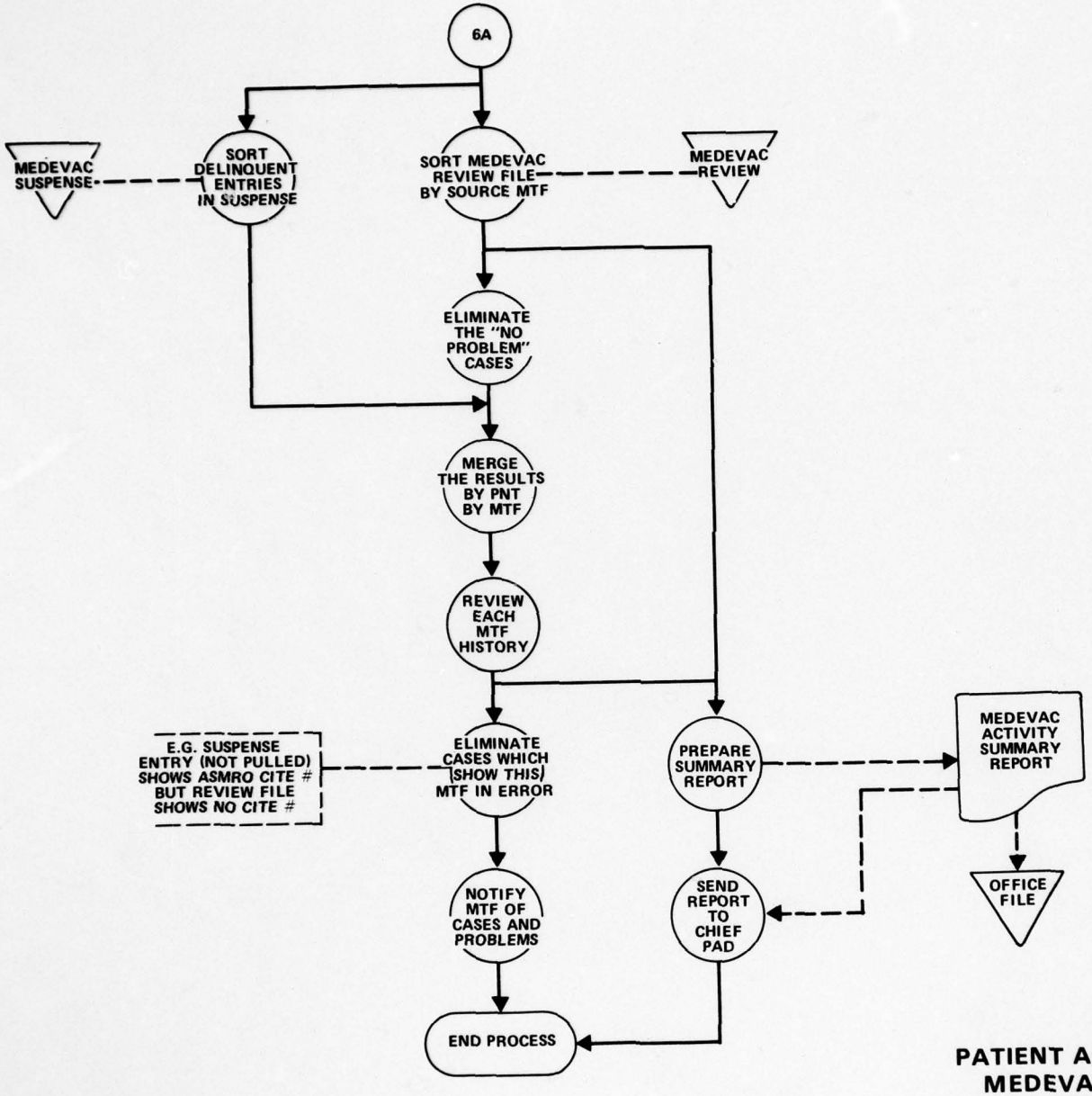


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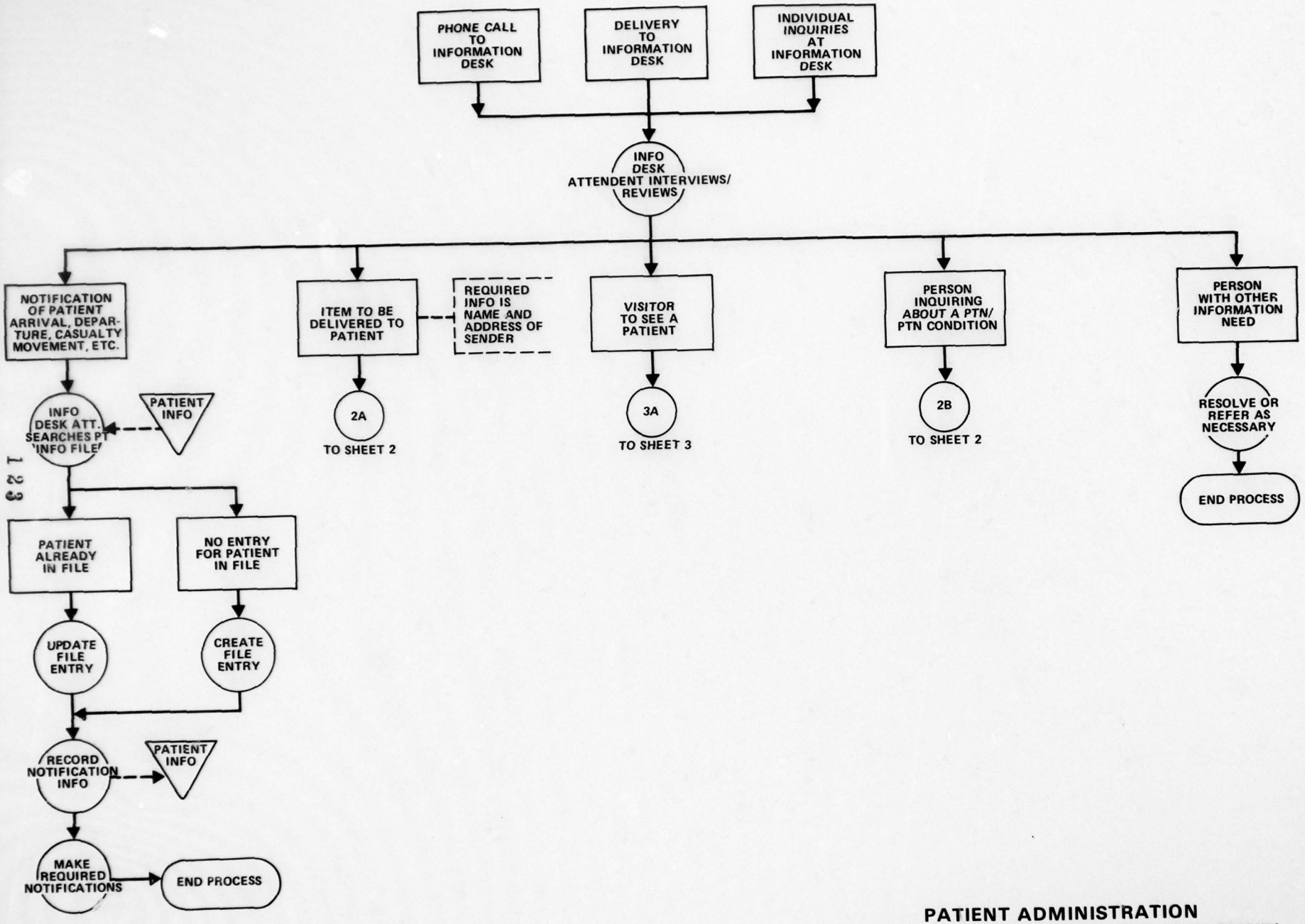
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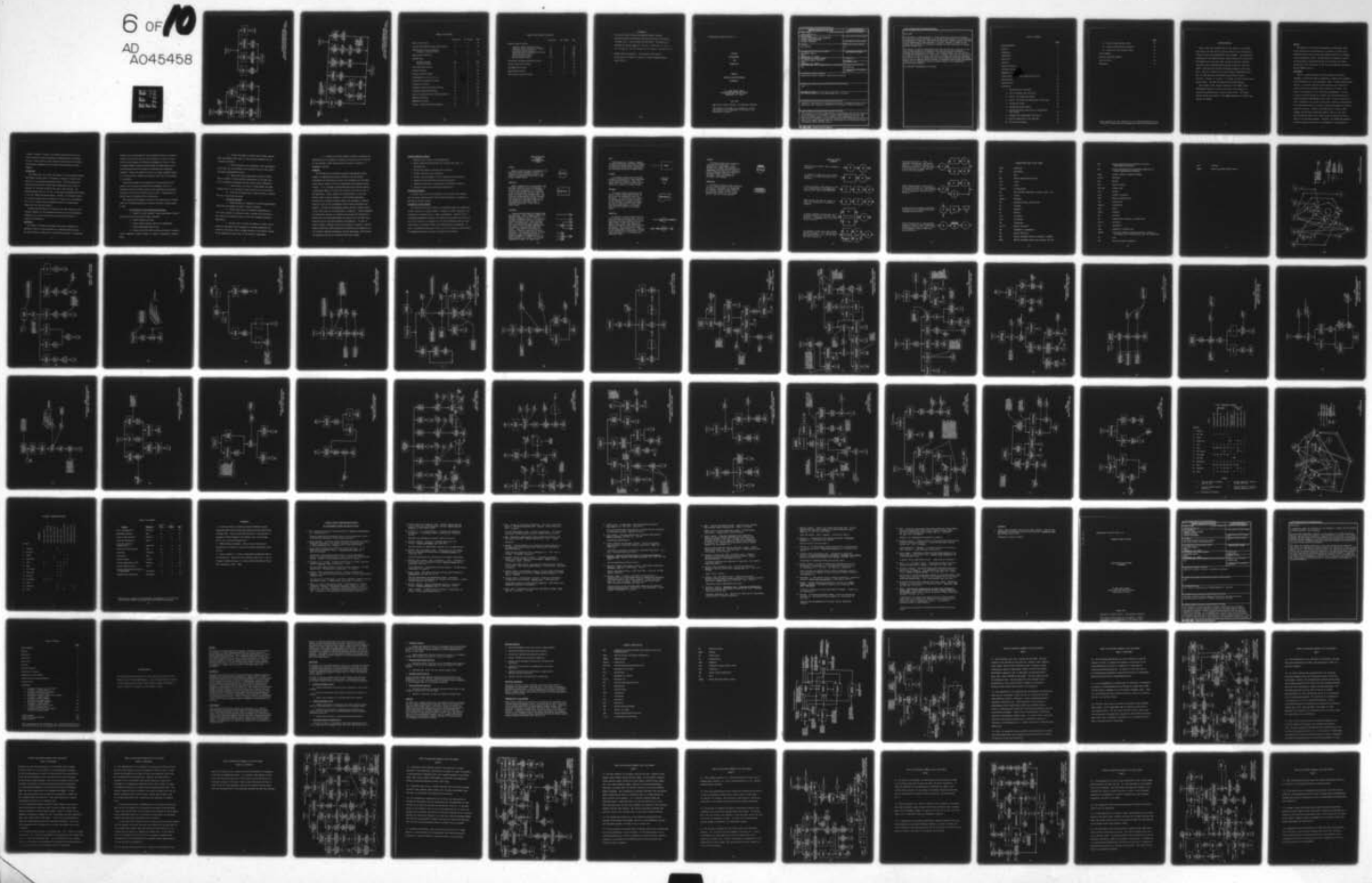
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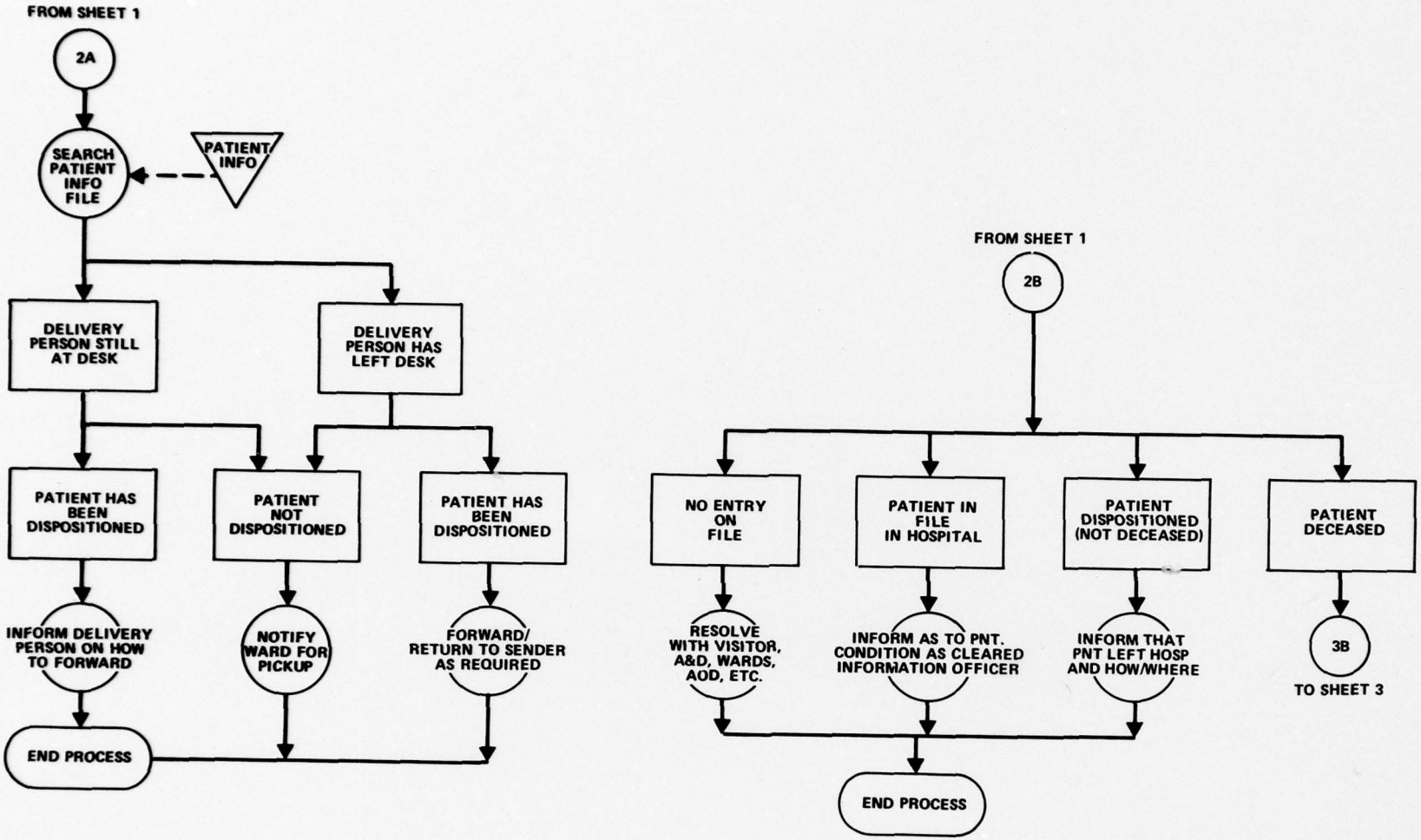


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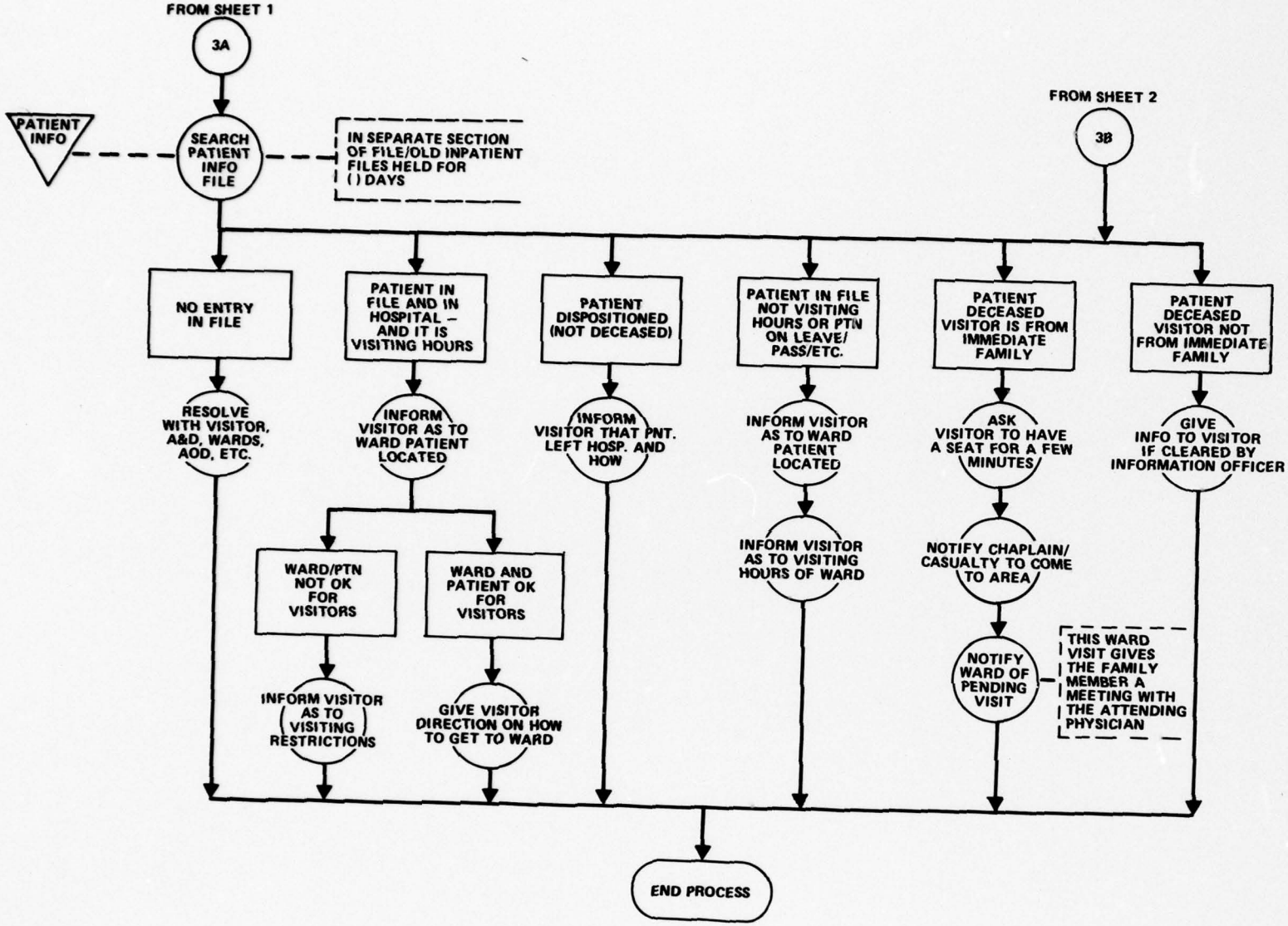
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REFERENCES

1. Tri-service Medica Information Systems (TRIMIS) Program: Integrated Health Care Delivery ADP System Functinal Description, 4 October 1974. (The so-called "Yellow Book") Particularly of relevance to PAD are pages II - 35, III - 2 thru III - 7, IV - 4, IV - 18 thru IV - 20, IV -25 thru IV - 27, and IV - 38 thru IV - 61.

2. TRIMIS Technical Workbook. (The so-called "Blue Book.") Particularly of interest is section 9, Patient Administration, dated 9/19/75.

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PATIENT APPOINTMENTS AND SCHEDULING PROCESS CONDITION-ACTION DIAGRAM FLOWCHARTS

U.S. ARMY TRIMIS AGENCY
WALTER REED ARMY MEDICAL CENTER
WASHINGTON, DC 20012

June 1976

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3. RECIPIENT'S CATALOG NUMBER	
4. TITLE *(and Subtitle)*: PATIENT APPOINTMENTS AND SCHEDULING PROCESS CONDITION-ACTION DIAGRAM FLOWCHARTS	5. TYPE OF REPORT & PERIOD COVERED
	6. PERFORMING ORG. REPORT NUMBER: N/A
7. AUTHOR(s): Karl Schank	8. CONTRACT OR GRANT NUMBER(s): N/A
9. PERFORMING ORGANIZATION NAME AND ADDRESS: USA TRIMIS Agency, WRAMC, Washington, DC 20012	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: USA TRIMIS Agency (SGTR-DO), WRAMC, Washington, DC 20012	12. REPORT DATE: June 1976
	13. NUMBER OF PAGES: 57
14. MONITORING AGENCY NAME & ADDRESS *(if different from Controlling Office)*: N/A	15. SECURITY CLASS. *(of this report)*: UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE: N/A

16. DISTRIBUTION STATEMENT *(of this Report)*

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18. SUPPLEMENTARY NOTES

For use in conjunction with TRIMIS-ARMY-TR-1-1 Overview.

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Flowchart, Condition-Action Diagram, Health Care, Information System, Clinic, Ambulatory Care, Hospital, Appointments, Scheduling, Outpatient Services

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

The purpose of the Patient Appointments and Scheduling (PAS) System condition-action flowcharts is to present in easily understandable graphic form the major processing involved in an advanced clinic appointments system. The PAS System is intended to provide the appointing and scheduling portion of the health care support systems which are the mission of the Tri-Service Medical Information System (TRIMIS) project.

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In the face of a wide diversity in clinic appointing operations throughout the military medical departments, the intent of this system is to be relatively comprehensive. Therefore, the TRIMIS PAS Subsystem includes features that may not be implemented at all hospitals or clinics. However, a subset of the system should suffice for any given treatment facility regardless of specialization or work load.

The essence of patient appointments and clinic scheduling as embodied in PAS is to bring together at a specified time and place the three essential elements for a patient-CP encounter - the patient himself, the care provider CP, and the medical record or "data base." Further, this is to be done in such a manner as to aid the clinic chief and unit manager in efficiently managing the clinic, to help in keeping medical records available where and when needed, and to aid the patient and care provider in planning their individual schedules. While this is conceptually rather straight-forward, it is pragmatically actually quite complex.

An annotated bibliography is included.

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*These mnemonics are not intended for use as general identifiers, but are used in these charts for indexing and cross-referencing purposes.

ACKNOWLEDGEMENTS

These charts were developed by Mr. Karl Schank of the TRIMIS-Army Agency, who also did the initial analysis of the then-existing system at Walter Reed Army Medical Center (WRAMC). The design and development of the complete system charted herein was a joint effort participated in by the Army, Navy, and Air Force with technical assistance from a Systems Engineering and Integration Contractor (SE&I). The principal military personnel involved in this effort were: CWO John C. Morris and Mr. Karl Schank, TRIMIS-Army Agency; Mrs. R. Lynne Nearman, Naval Medical Data Services Center; CPT John J. Cleary, Jr. and Mr. J. T. Wright, Air Force Data Systems Design Center. The SE&I was IBM Federal Systems Division.

Many thanks to Mrs. Margot Alessandro of the WRAMC Central Appointments Section, as well as her staff, who allowed us to analyze her system and put up with us when we did. LTC Norman Wallace and MAJ Carl Helser of the WRAMC Department of Clinics also deserve our thanks.

PURPOSE.

The purpose of the Patient Appointments and Scheduling (PAS) System condition-action flowcharts is to present in easily understandable graphic form the major processing involved in an advanced clinic appointments system. The PAS System is intended to provide the appointing and scheduling portion of the health care support systems which are the mission of the Tri-Service Medical Information System (TRIMIS) project.

BACKGROUND.

There is a wide diversity in clinic appointing operations throughout the military medical departments, ranging from individual clinic maintenance of local appointment books, to block-scheduled mass clinics, to individual patients seeing specific care providers in clinics that may be appointed either centrally or locally. The intent of the system is to be relatively comprehensive. As such, it must be flexible enough to be usable for facilities that have a single Centralized Appointment Section (CAS), as well as facilities that in addition to or in lieu of this have a system of decentralized local appointing areas (the clinics) operating throughout the medical facility or region. Further, the system must be usable by MTFs ranging from the small stand-alone medical clinic to the large military medical center with a wide variety of specialty services and/or active teaching program. Therefore, the TRIMIS PAS Subsystem includes features that may not be implemented at all hospitals or

clinics. However, a subset of the system should suffice for any given treatment facility regardless of specialization or workload. In fact, a major portion of the features charted here have recently been manually implemented at the Walter Reed Army Medical Center (WRAMC).

LIMITATIONS.

The reader must not at this time expect to find a hospital Central Appointment Section (CAS), for example, in which the clerks follow exactly all the procedures described herein. This is because the PAS System charted here includes more capabilities than, and is a superset of, any known system at the time of this writing. The system presented here is, in fact, a technology-independent description of the full TRIMIS PAS System design. However, the internal details of routine processes such as production of reports are not presented here, as the condition-action diagram format is an inappropriate medium for that type description.

Although the maintenance of operating room (OR) schedules is one required component of the subsystem that has not yet been adequately addressed, and is not charted here, work has been initiated to complete its definition.

OBJECTIVES.

The essence of patient appointments and clinic scheduling as embodied in PAS is to bring together at a specified time and place the three essential elements for a patient-CP encounter -- the patient

himself, the care provider CP, and the medical record or "database." Further, this is to be done in such a manner as to aid the clinic chief and unit manager in efficiently managing the clinic, to help in keeping medical records available where and when needed, and to aid the patient and care provider in planning their individual schedules. While this seems at first to be rather straight-forward, it is actually quite complex and requires a good deal of processing to accomplish.

These PAS processes are visualized as the starting point for patient care encounters and health care management, and it is understood that this initial contact often determines the patient's perception of the entire facility and its staff. Consequently the patient must be treated with tact and respect.

More specific philosophies, policies, and objectives are outlined under the following headings that indicate the major process groups of PAS.

a. Care Provider Schedule Maintenance Function.

1. Satisfy or match patients' unique appointment criteria and desires with clinic/care provider schedules.

2. Reduce waiting room time.

3. Reduce patient waiting time for an appointment.

4. Reduce appointment making time.

5. Speedily and efficiently provide the means to schedule, locate, summarize, confirm, change, or cancel an individual's appointments.

6. Provide the means to satisfy those patient appointment requirements when clinic or care provider schedules are not currently available.

7. Allow flexibility of scheduling so that appointments can be made for the individual care provider from the clinic and/or the Central Appointments Section.

8. Reduce and resolve appointment conflicts arising from an attempt to create multiple appointments at the same time (in an integrated environment this may involve other subsystems).

9. Insure that in no case is an appointment ever made automatically for an outpatient without her/his active concurrence.

10. Allow for the appointing of every encounter a patient has with a clinic/care provider.

c. Follow-Up Function.

1. Remind patients of confirmed or cancelled appointments (this must not abridge his right to medical privacy).

2. Provide daily lists of scheduled appointments for each clinic session in sufficient time to arrange their delivery to the clinic and practitioner prior to the first scheduled patient's appointment.

3. Provide lists to notify the medical or dental record room and x-ray image library personnel of records required by the clinics in sufficient time to arrange delivery of the patient records to the appropriate clinic prior to the patient's appointment.

4. Provide an accurate method of patient accounting and improved data on the demand for health care services for the clinics or care provider (these statistics may be used as a variety of management reports).

OVERVIEW.

The PAS System is an advanced outpatient appointments system capable of supporting with great flexibility the specialized requirements of subspecialty clinics, and individual care providers practicing in clinics, as well as traditional block-appointed mass clinics. It is a blended centralized/decentralized system offering a significant degree of local clinic control, and local as well as CAS appointing. Hence, nowhere is any distinction, or even any mention, made of CAS as opposed to clinic-located appointing. Facilities are included to handle many of the problems of teaching hospitals, such as the professional staff rotating throughout the hospital. As with any appointments system, medical records delivery to the clinic prior to the appointment is supported. Useful managerial and statistical reports are provided; and because the facilities to handle short lead time appointments and walk-ins are included, work-load data may be collected uniformly and completely. In order to reduce no-shows, reminder notices can be mailed to patients. The PAS System charted here offers significant flexibility and capability in care provider schedule maintenance, patient appointing, and follow-up and reporting that may be unavailable with most systems.

EXPECTED BENEFITS INCLUDE:

- o Improved local control and responsiveness.
- o Single centralized appointment and schedule data base, if ADP supported.
- o Uniform and complete workload data collection.
- o Greater flexibility and capability.
- o Greater clerk knowledge of clinic operations and procedures.
- o Automatic record retrieval and roster generation.
- o Improved utilization of professional and physical resources.
- o Improved patient and professional satisfaction.

SUBSYSTEM INTERFACES

As noted, there are major interfaces to the clinics (W/C) system, and the Patient Administration (PAD) System particularly including the PAD Medical Records Library.

AMENABILITY TO ADP SUPPORT.

The eventual goal is that PAS be an automated system with significant on-line interactive computer support. However, in these flowcharts, the processing is presented only in terms of procedures. Because of this technology-independent approach, the system and the charts are not in any way tied to the use of a computer or any other technology (such as lazy-susan wheels for schedule files), thus enhancing their usefulness. In fact, if workload and resources allow, any or all features of PAS may well be implemented manually by simply following the flowcharts.

CONDITION-ACTION DIAGRAM INTERPRETATION GUIDE

ACTION

When an action circle is encountered, the specified action, procedure, function, or process is to be performed as noted. An action is performed and never has a truth (true or false) value.



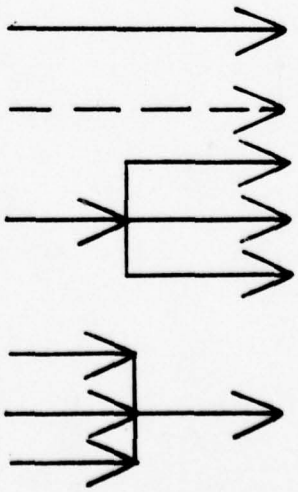
CONDITION

When a condition box is encountered, the specified condition is to be evaluated. If it holds true or succeeds, the following blocks on the diagram are to be executed. If the condition does not hold, then flow along this path of the diagram stops. The flow may, as appropriate, either be permanently blocked or may merely wait at the box pending the successful evaluation of the condition at some later time. A condition always has a truth (true or false) value.



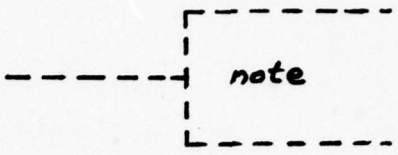
FLOWLINES

Flow proceeds through the diagram along the flowlines. When a flowline splits into multiple lines, all the lines must be followed (perhaps at once). If only one is intended, condition boxes will be used to select the proper line. When flowlines join or reconsolidate into a single line, that line is to be followed regardless of the number of joining lines that were active. Thus there is no waiting at a junction. Control, execution, or interpretation of the diagram is shown by solid flowlines. Data and information, is usually assumed to accompany control, but where necessary for clarity, it is shown, regardless of media, by dashed lines.



NOTE

Clarifying notes, comments, remarks, and other annotation, including references to additional documentation, are enclosed in dashed note boxes and are connected to the annotated structure by dashed lines.



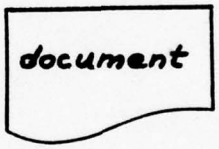
STORAGE

A triangular storage block indicates storage of information or data regardless of the medium of storage. Thus, only dashed data flow lines, not solid control lines, will connect to storage blocks.



DOCUMENT

A document symbol represents information or data, regardless of media (it may or may not physically reside on a document). It is used only for clarity, as information such as that contained in the "document" is assumed to always be present along with the control flow. Like the storage symbol, only dashed data lines may connect to a document symbol.



CONNECTOR

A connector circle specifies that the flow continues on another page. An out-connector contains a number, which is the sheet number at which the flow is continued, and a letter, which specifies which in-connector on that sheet is being referenced. The in-connector contains the matching number-letter code. Adjacent to the connectors is a notation as to the sheet and process to or from which the connectors refer.





PROCESS

A striped process circle indicates a process to be performed. It is analagous to a high-level or meta-action. The process referenced will be diagrammed in its own set of condition-action flowcharts which are included in the same packet of flowcharts for reference. After the process is performed, flow resumes.



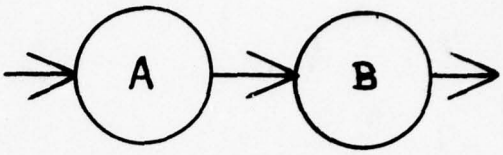
TERMINATOR

The oblong terminator symbol indicates that the current process or sub-process is complete. Normally, upon completion of a process, control returns to the process which invoked it, and resumes where it left off in that process.

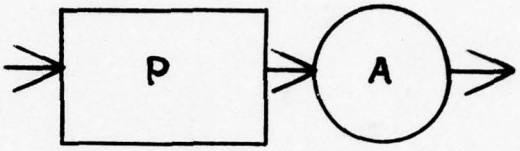


CONDITION-ACTION EXAMPLES

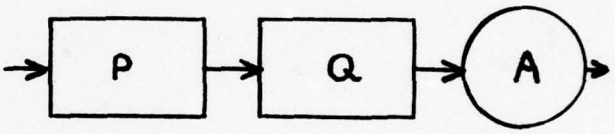
Perform Action A first, then in sequence, perform B.



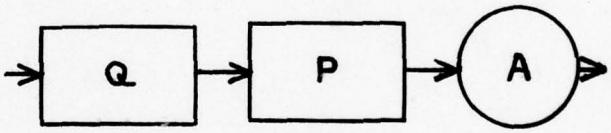
If condition P holds true, then perform Action A. If P does not hold, do not perform A.



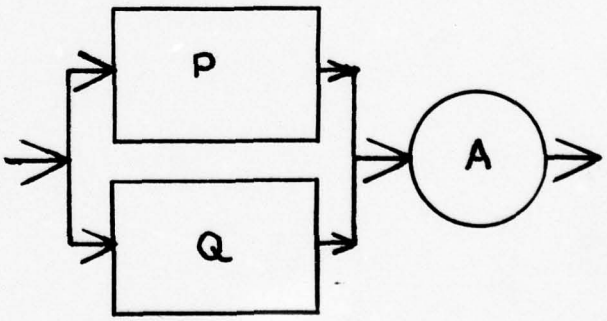
If both condition P and condition Q hold true, then perform A. If either one does not hold, then do not perform A.



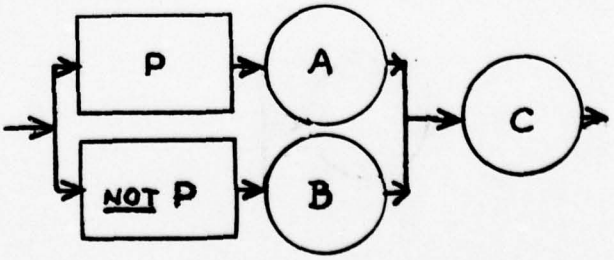
Same function and same net results as above, but evaluated in a different sequence.



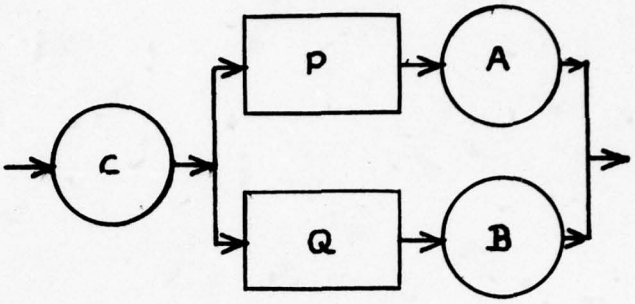
If either condition P holds true, or if condition Q holds true (or both), then perform A. If neither holds true, then do not perform A.



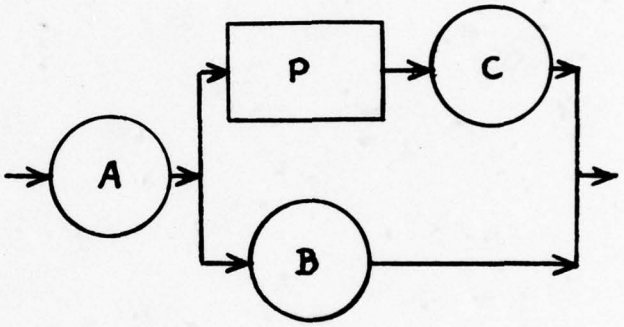
If condition P holds true, then perform Action A but not B. If P does not hold, then perform B but not A. In any case, when done, perform C.



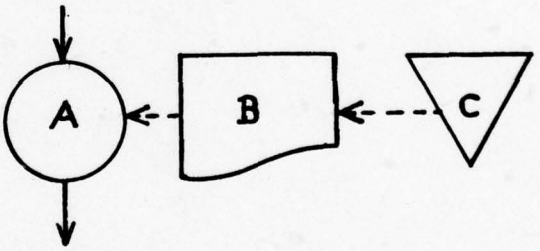
First perform Action C. Then: If condition P holds true, then perform Action A. If condition Q holds true, then perform action B. Note that both P and Q may hold, in which case both A and B will be performed.



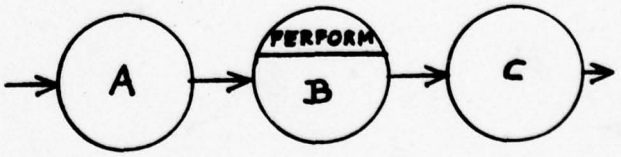
First perform Action A, then (in all cases) perform Action B. Additionally, if condition P holds true, then perform Action C (perhaps at the same time as Action B).



Perform Action A utilizing information contained on the document B which was retrieved from the file C.



First perform Action A. Then perform process B, which is itself flowcharted elsewhere in this set of charts. After B is completed, return to here and perform Action C.

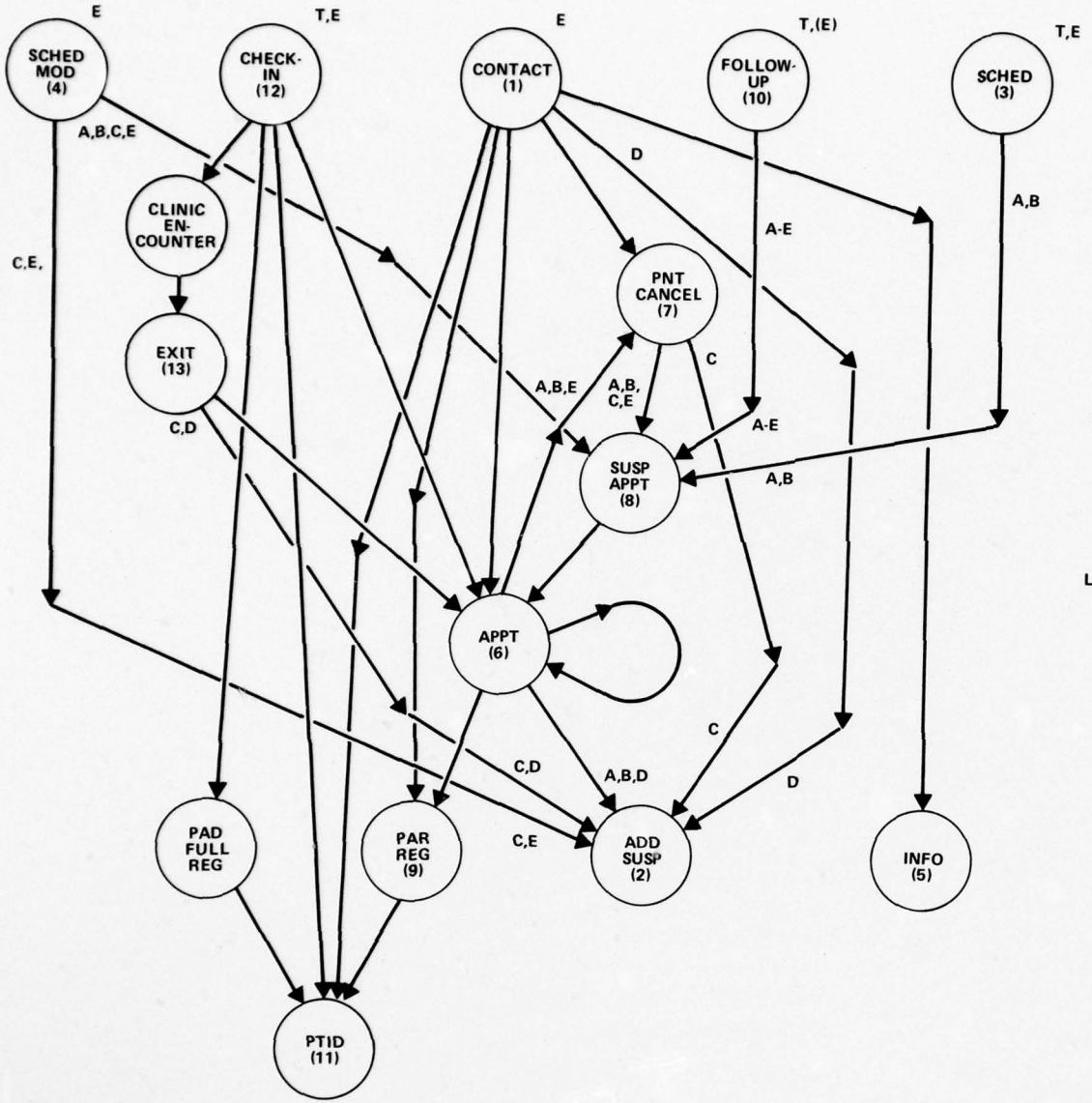


ABBREVIATIONS USED IN PAS CHARTS

add'l	additional
appt	appointment
$\overline{c}$	with
CAS	Central Appointments Section
clin	clinic
clk	clerk
corresp	correspondence
CP	Care Provider (physician, dentist, nurse, etc.)
curr	current
determ	determine
DF	Disposition Form, DA Form 2496
doc	document
Dx	Diagnosis
Hx	History
incl	including
info	information
lim	limitations
med rec	medical record(s)
mgt	management or managerial
MR	Medical Record(s)
MTF	Medical Treatment Facility (hospital, roughly)
MTRC	Medical Treatment Record Card (patient ID card)

PAD	Patient Administration Subsystem (or Patient Administration Division)
PAS	Patient Appointments and Scheduling Subsystem (or Patient Appointments Subsystem)
pblm	problem (patient's medical problem)
persnl	personnel
pnt	patient
POC	Point of Contact
pri care	primary care
proc	process
prod	product or produce
PTID	Patient Identification
reg	registration
registr	registration
rept	report
sched	schedule
sel	selected
SF	Suspense File (waiting or pending list)
spec'd	specified
stat	statistical
susp	suspense or suspense file
TRIMIS	Tri-Service Medical Information System. Refers to the system, the project/program, and the organization.
w/	with
W/C	Wards and Clinics Subsystem

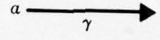
wkld	workload
WRAMC	Walter Reed Army Medical Center



SUSPENSE FILE (SF) CODE:

A	WAITING LIST SF	APPOINT-MENT SF
B	PENDING CP SCHEDULE SF	
C	RETURN VISIT SF	
D	LONG LEAD-TIME SF	
E	CANCELLATION SF	

LEGEND



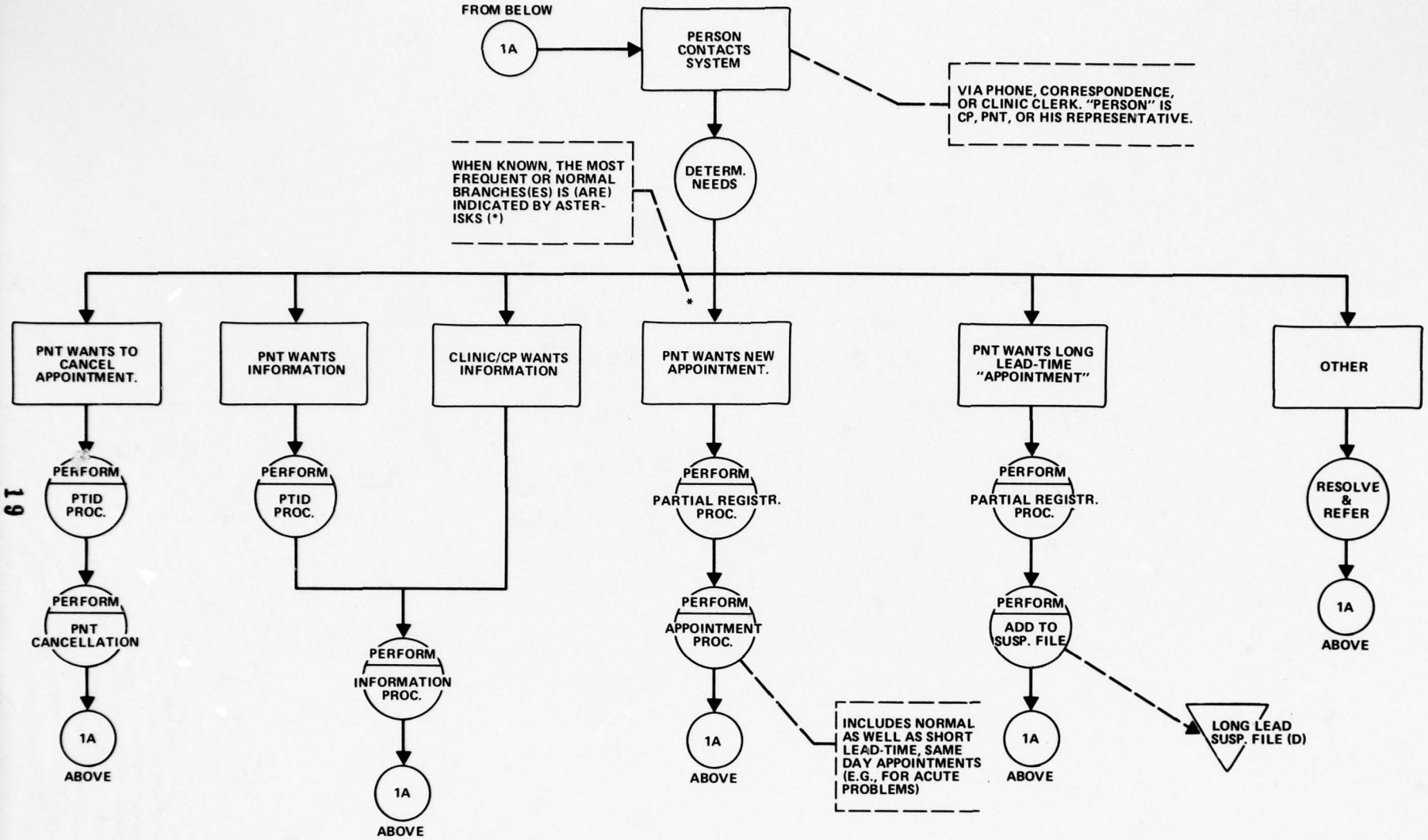
PROCESS "α" may INVOKE OR DIRECTLY INITIATES PROC. "β" WITH SUSPENSE FILE "γ" TO BE USED BY "β".

NAME (n) — A PROCESS WITH MNEMONIC "NAME" AND PAS SUBSYSTEM NUMBER "n".

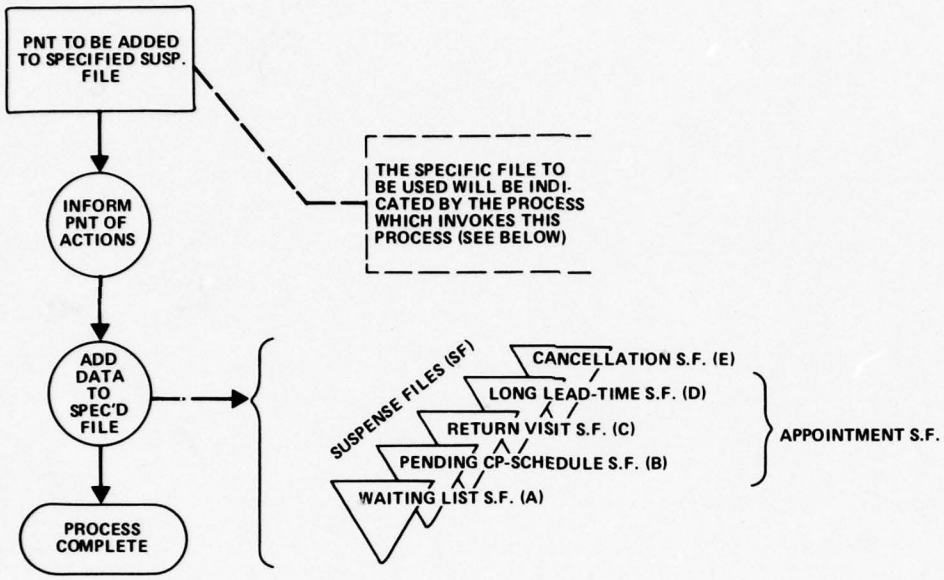
T — PROCESS IS TIME-INITIATED (SCHEDULED).

E — PROCESS IS EVENT INITIATED.

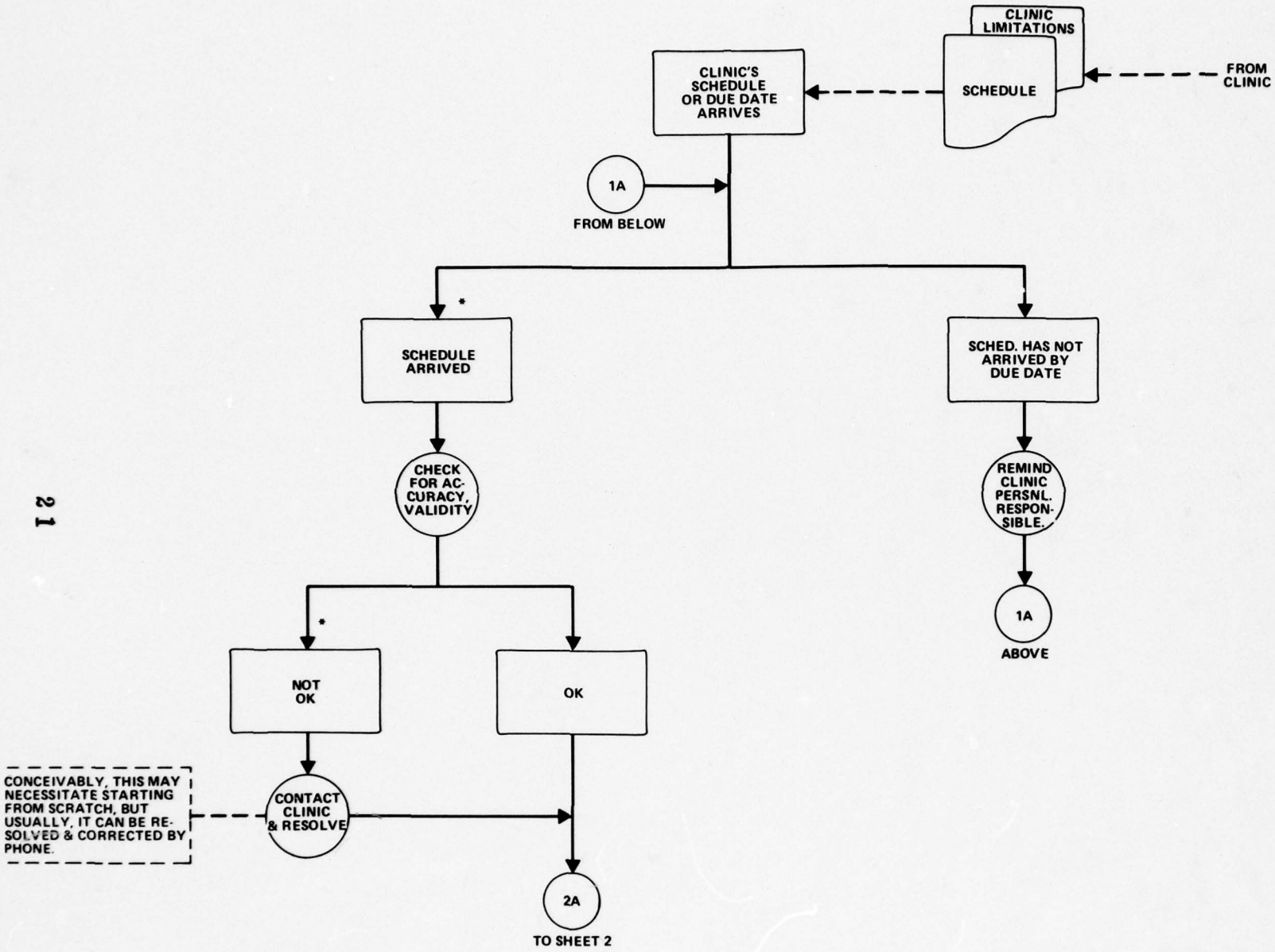
PAS
PROCESS INVOCATION OVERVIEW



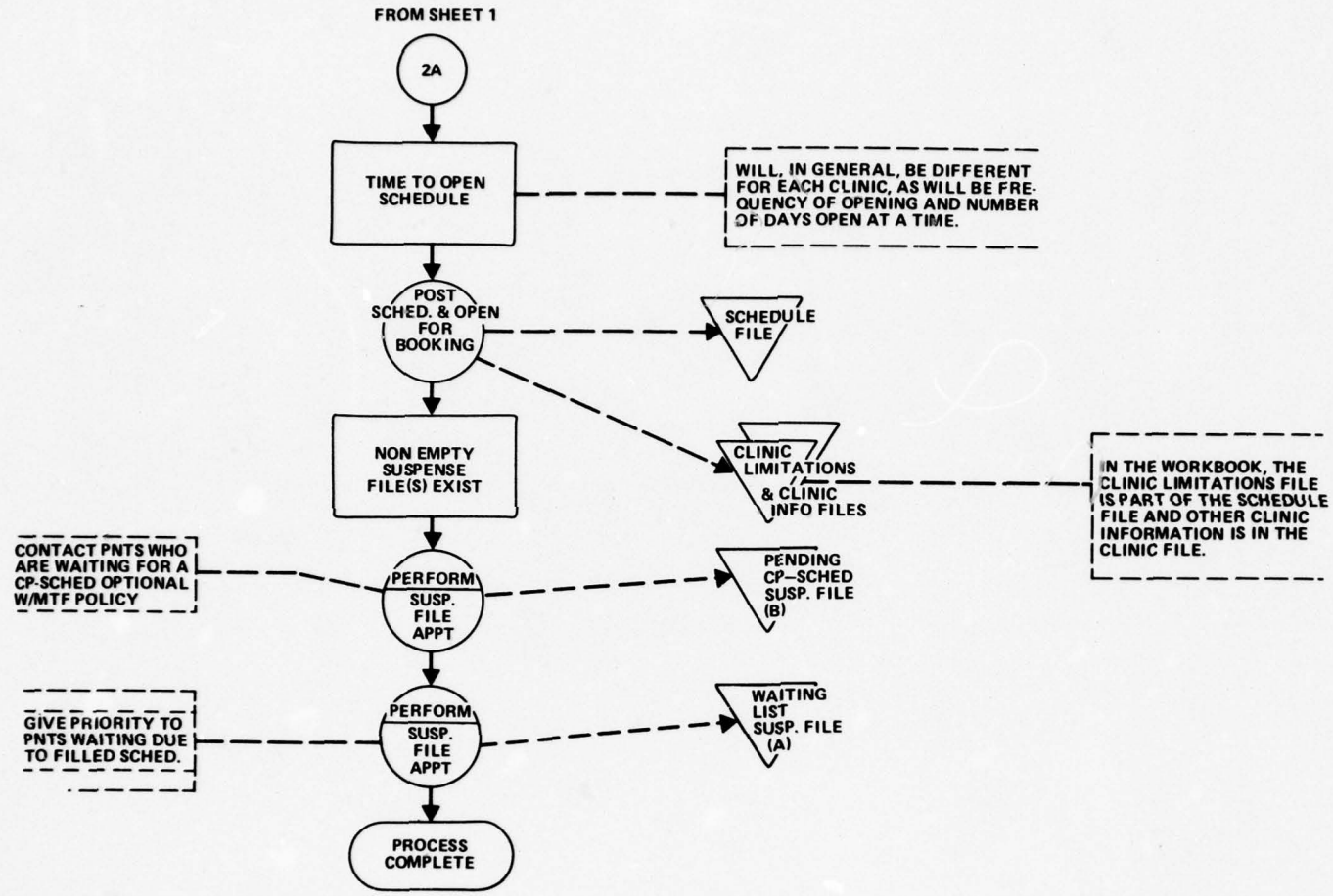
PAS
INITIAL CONTACT PROCESS
SHEET 1 OF 1 3 NOV 1975



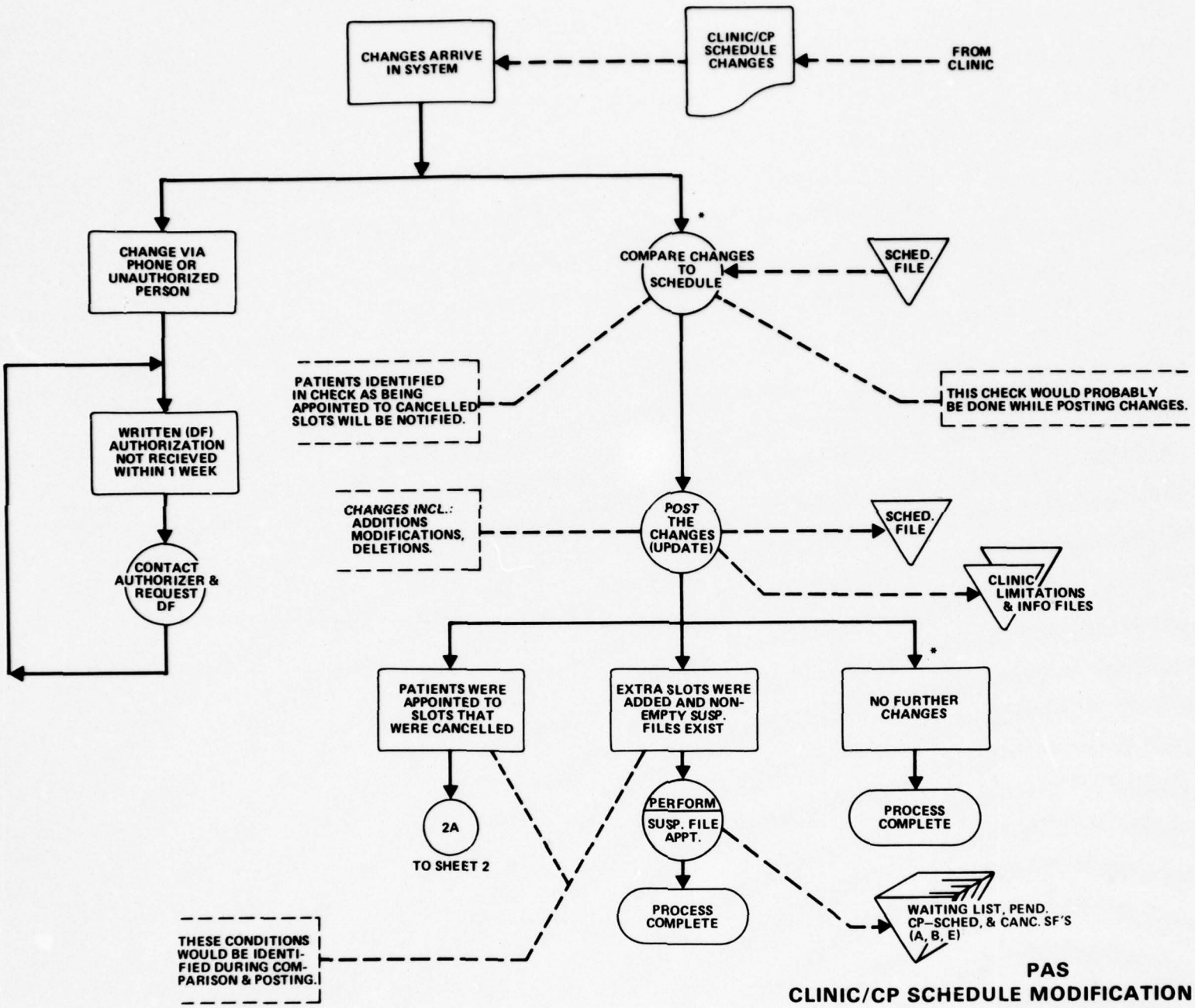
PAS
ADD TO SUSPENSE FILE PROCESS
SHEET 1 OF 1 3 NOV 75



PAS
CLINIC/CP SCHEDULING PROCESS
SHEET 1 OF 2 31 OCT 1975



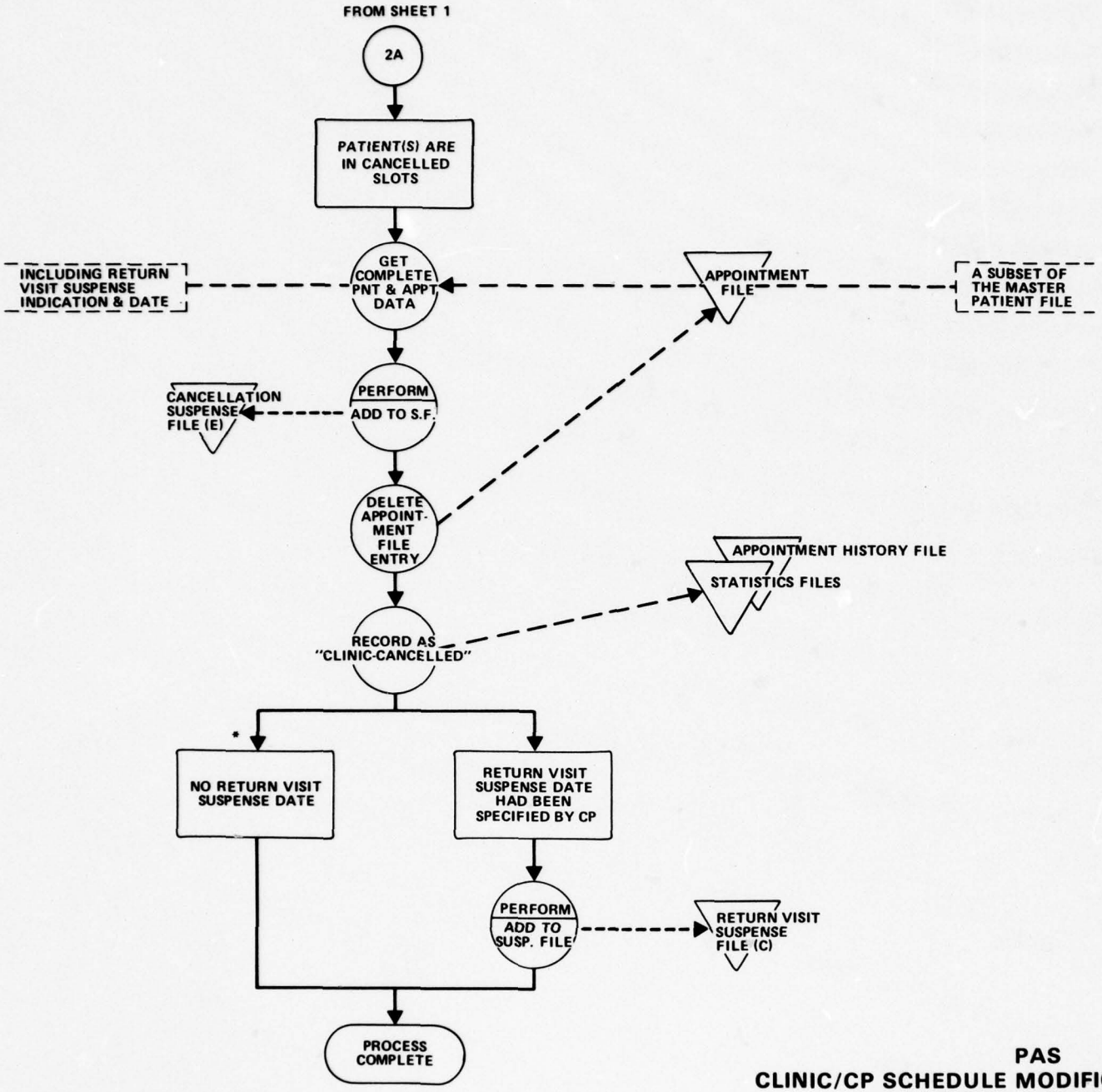
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CLINIC/CP SCHEDULING PROCESS
SHEET 2 OF 2 31 OCT 1975



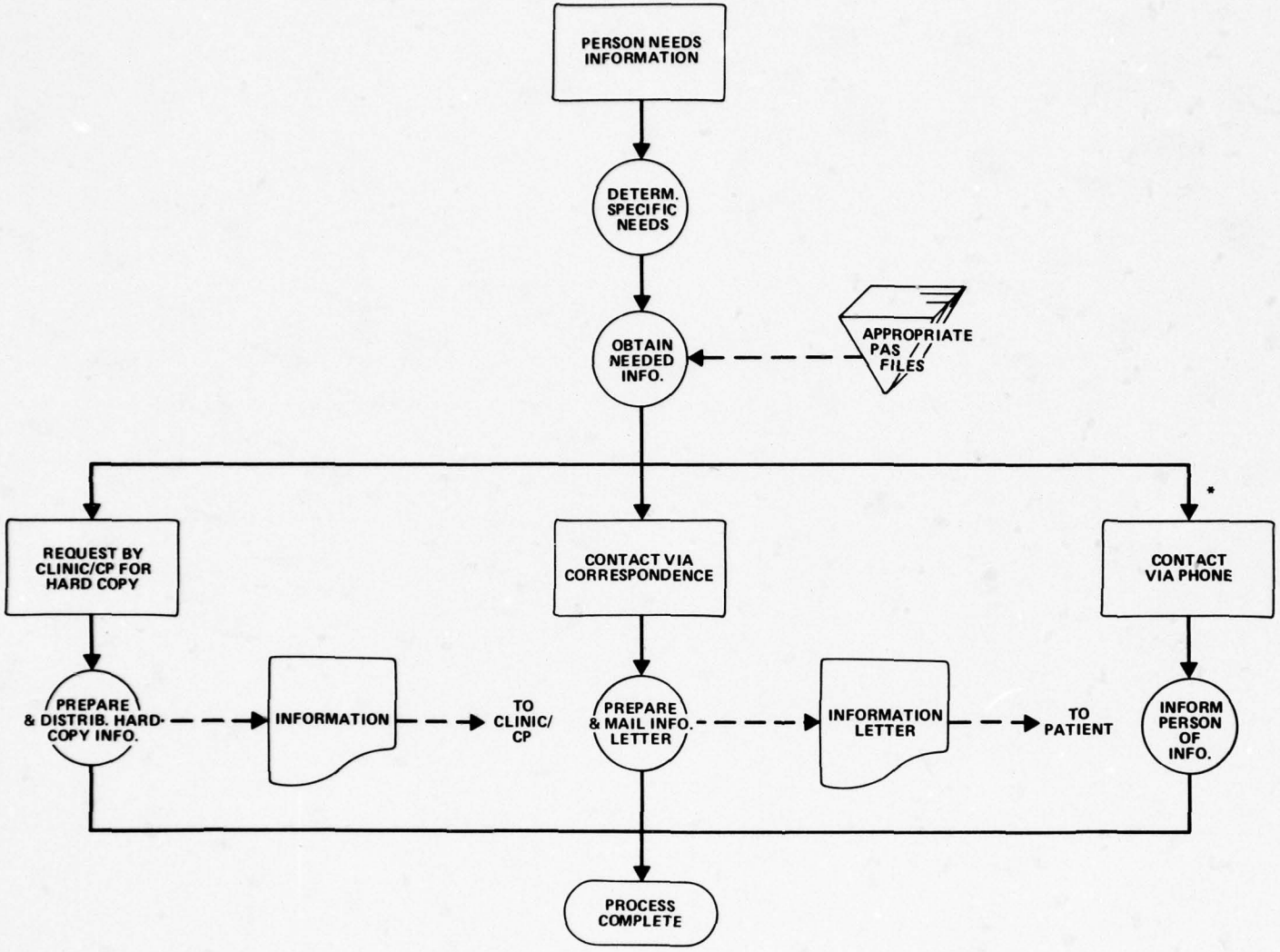
PAS

CLINIC/CP SCHEDULE MODIFICATION PROCESS

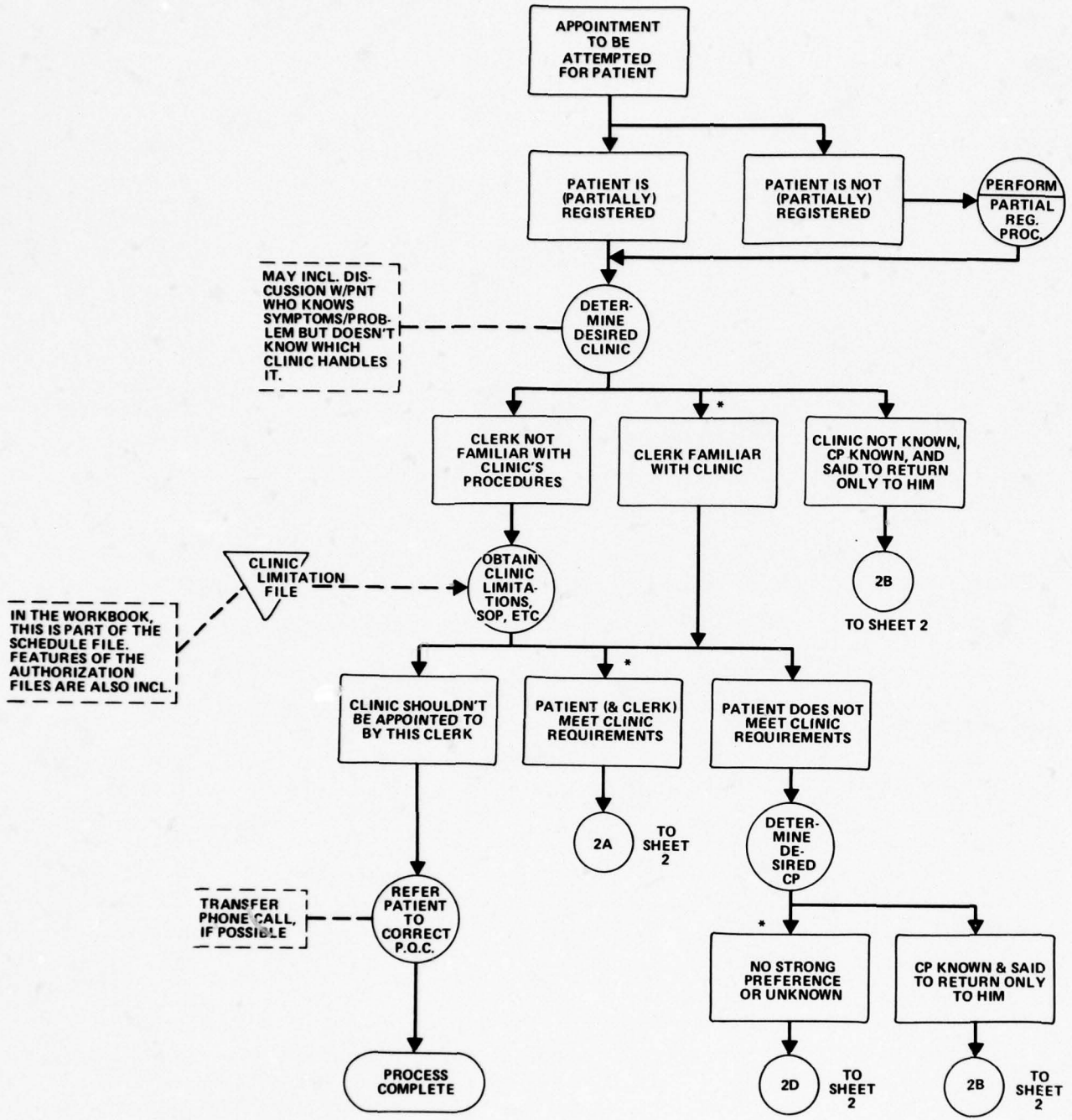
SHEET 1 OF 2 3 NOV 1975



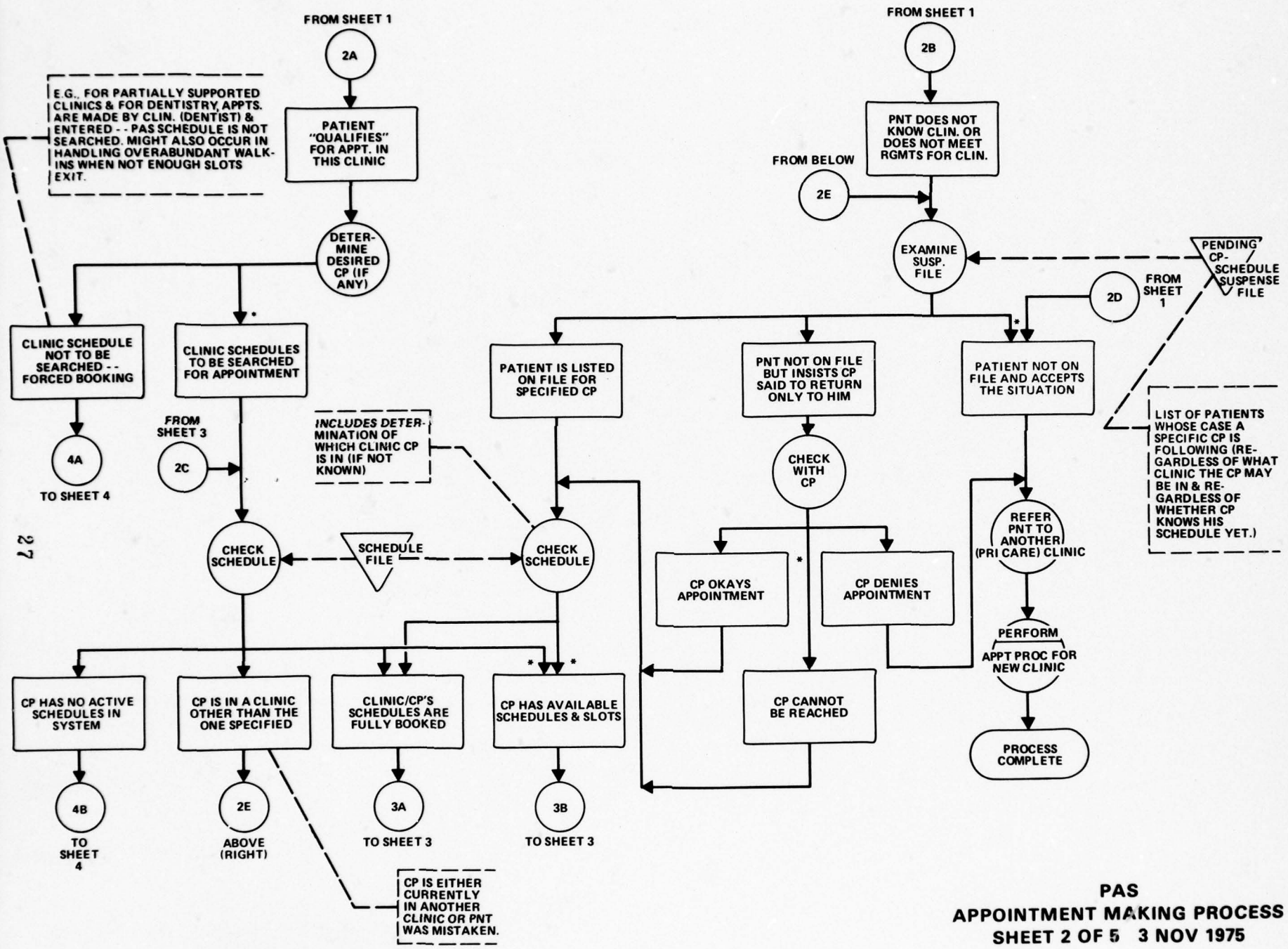
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CLINIC/CP SCHEDULE MODIFICATION PROCESS
SHEET 2 OF 2 31 OCT 1975



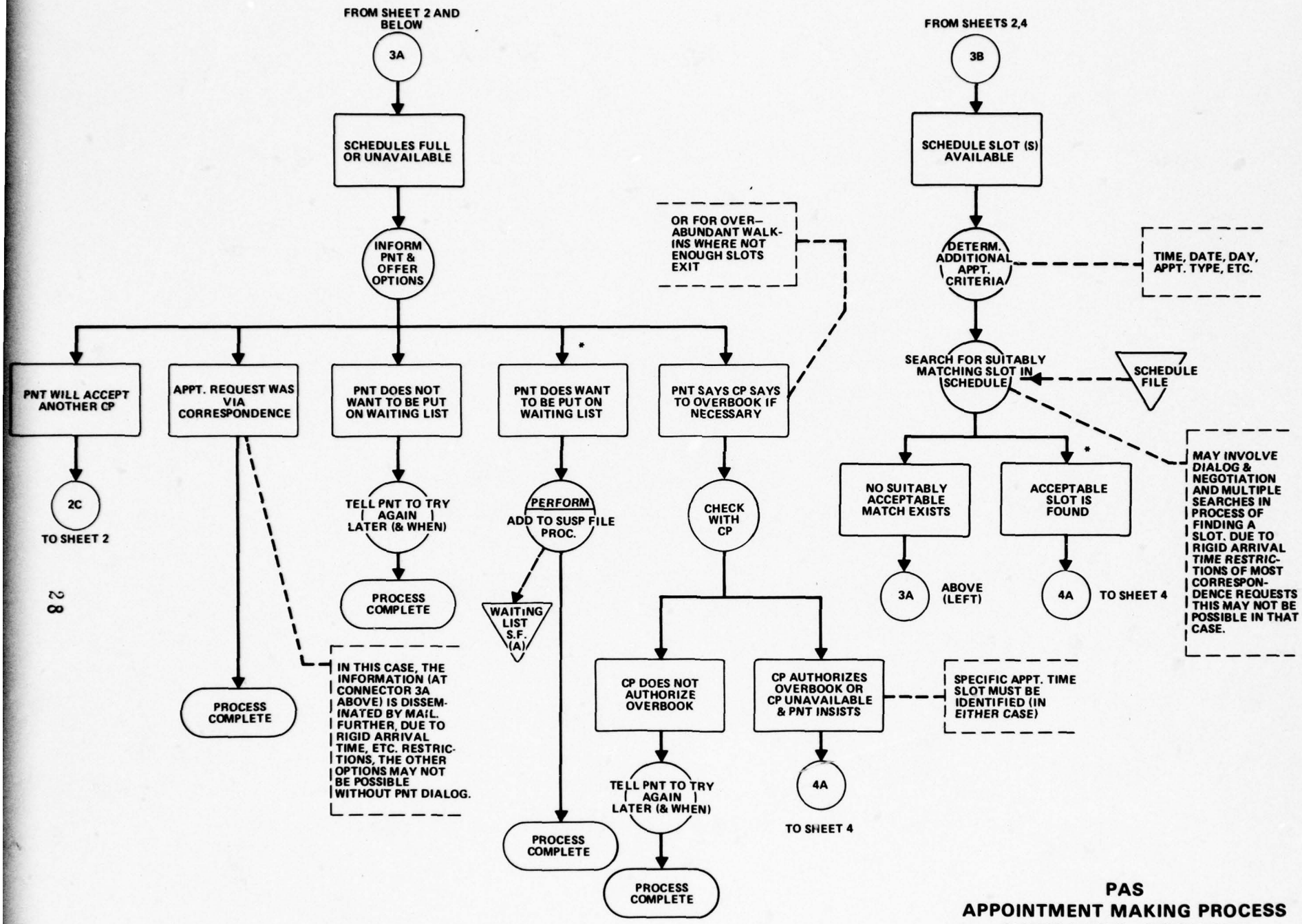
PAS
INFORMATION PROCESS
SHEET 1 OF 1 31 OCT 1975



PAS
APPOINTMENT MAKING PROCESS
SHEET 1 OF 5 31 OCT 1975

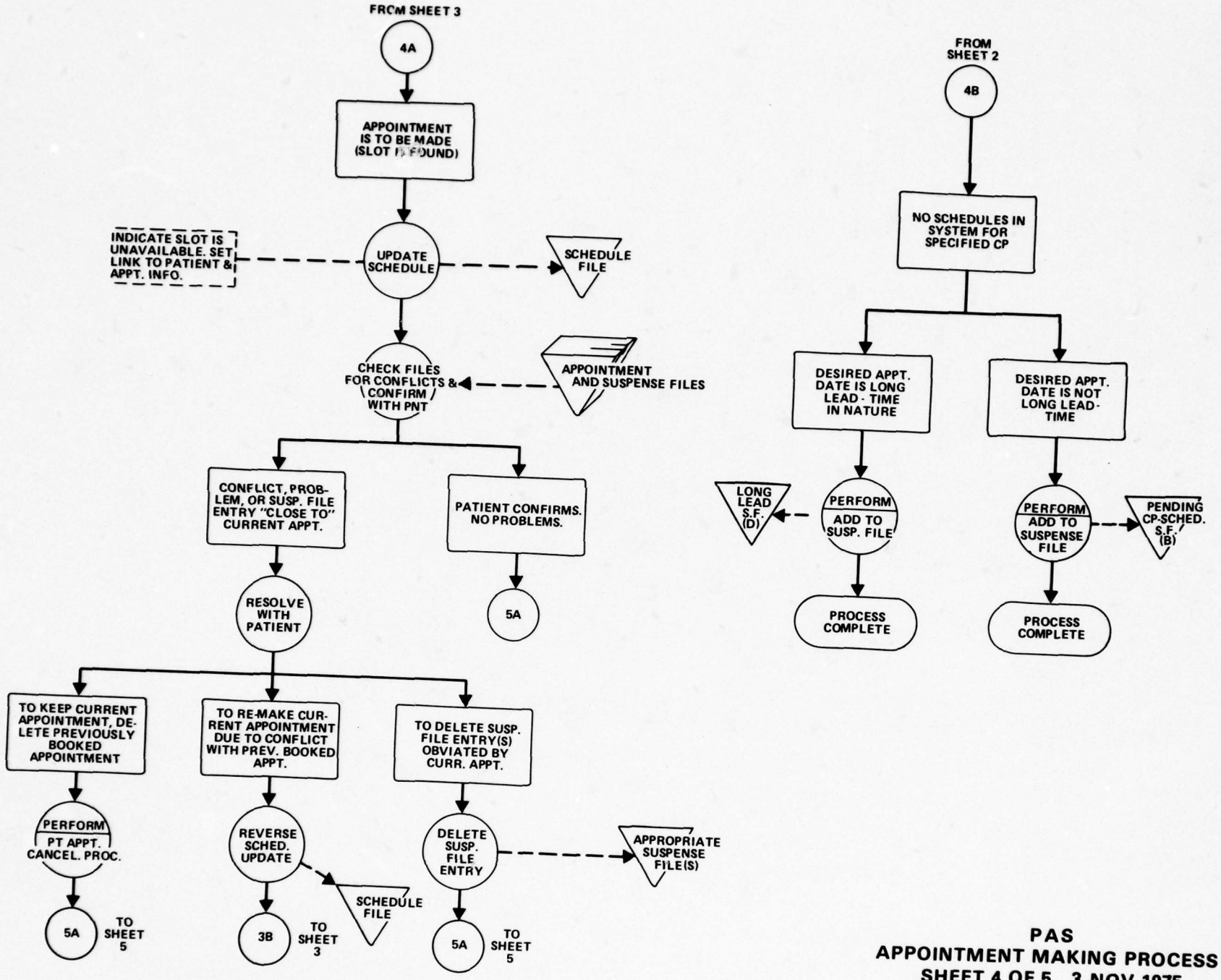


PAS
APPOINTMENT MAKING PROCESS
SHEET 2 OF 5 3 NOV 1975

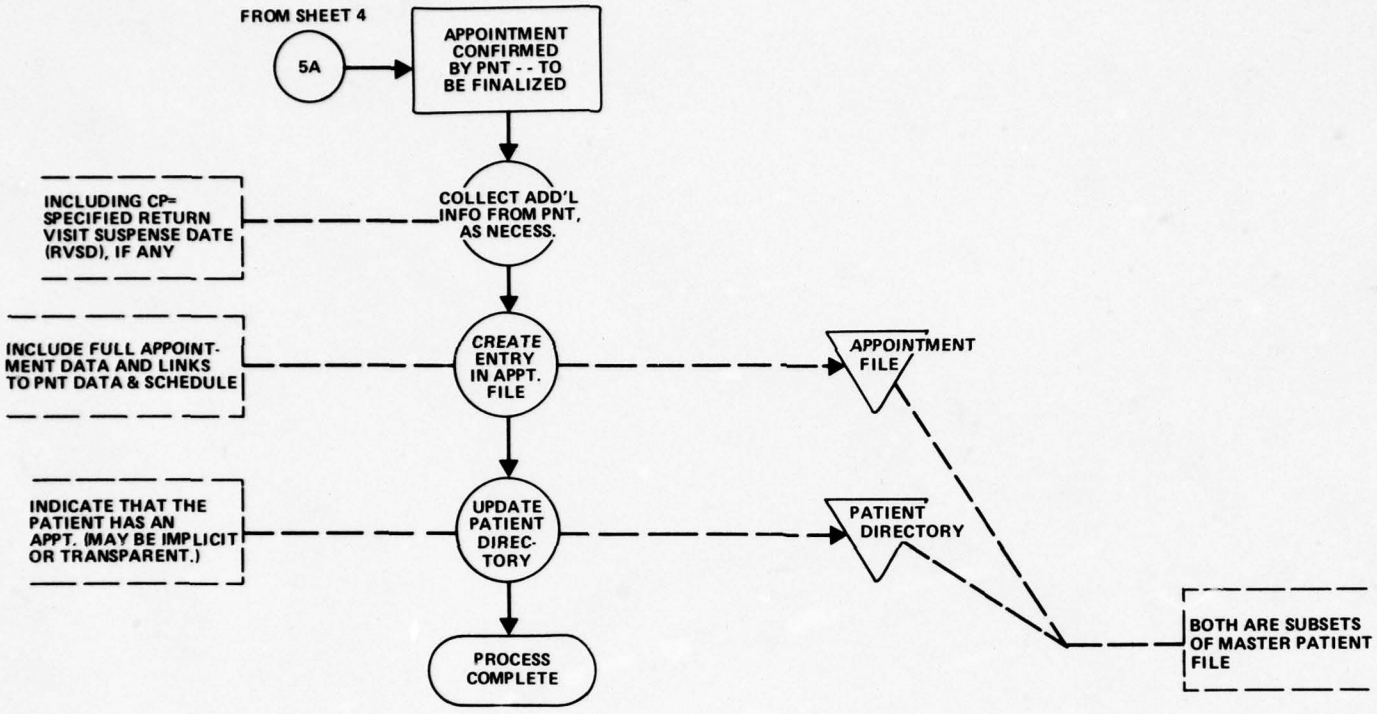


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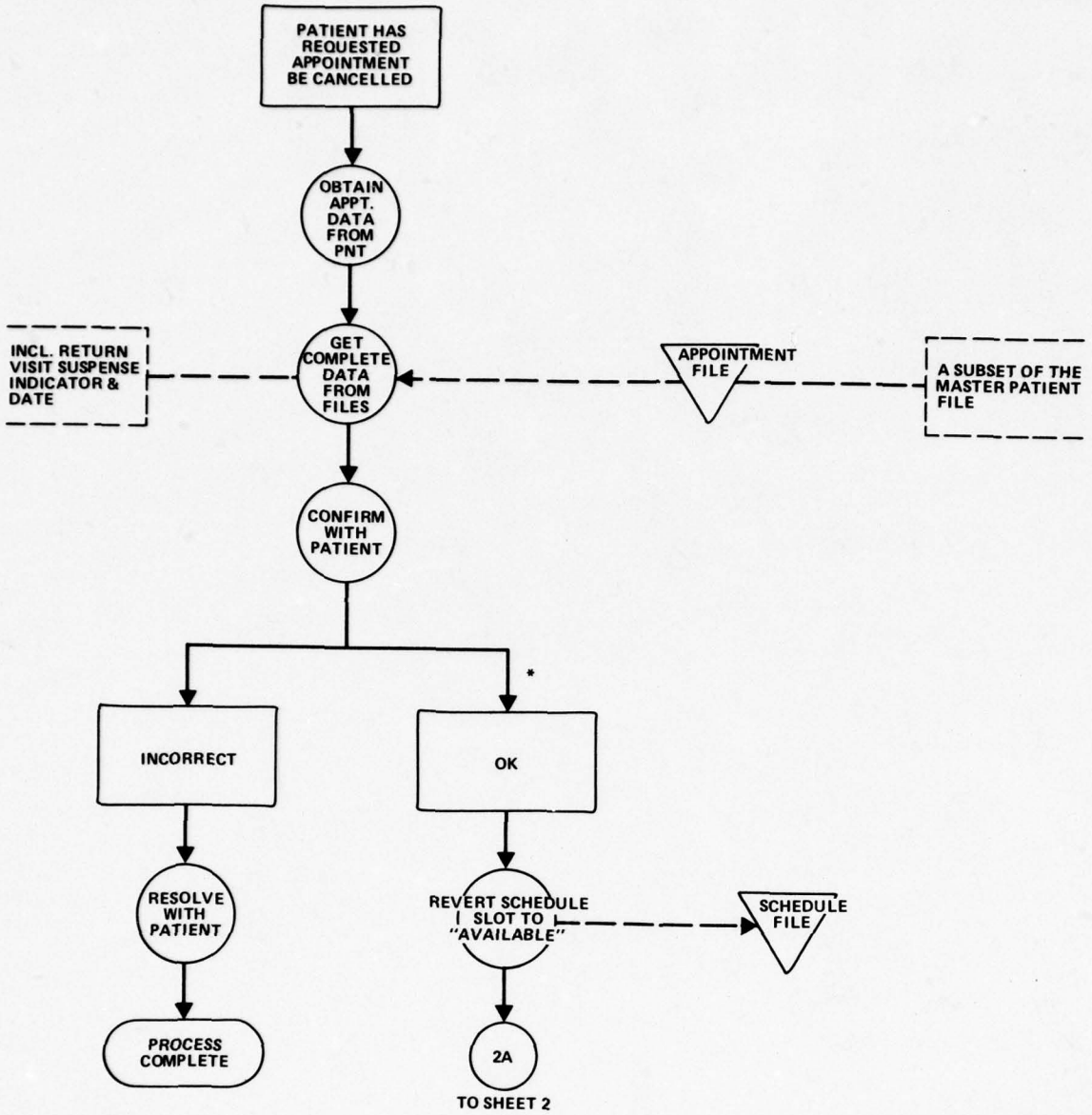
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APPOINTMENT MAKING PROCESS
SHEET 3 OF 5 3 NOV 1975



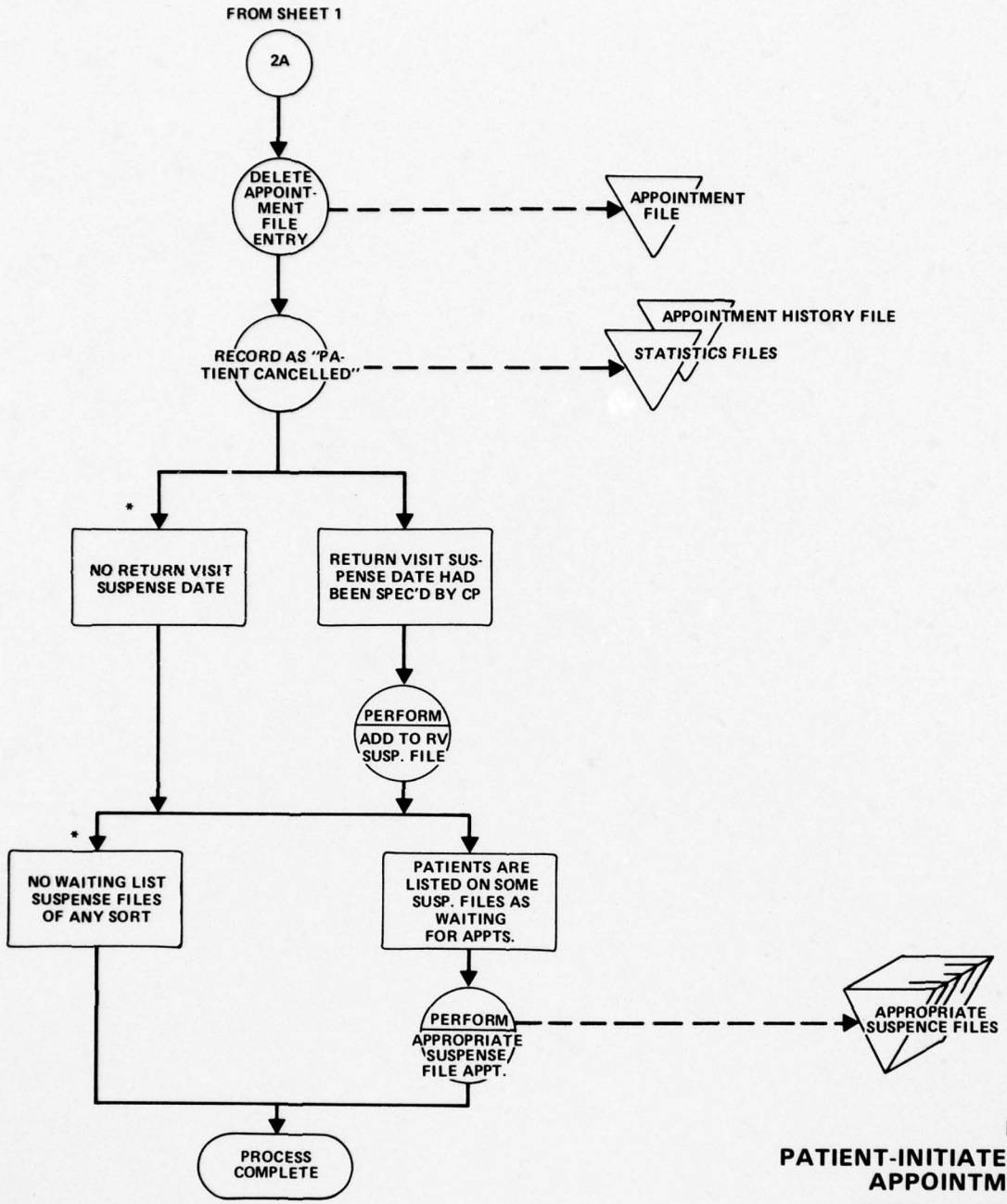
PAS
APPOINTMENT MAKING PROCESS
SHEET 4 OF 5 3 NOV 1975



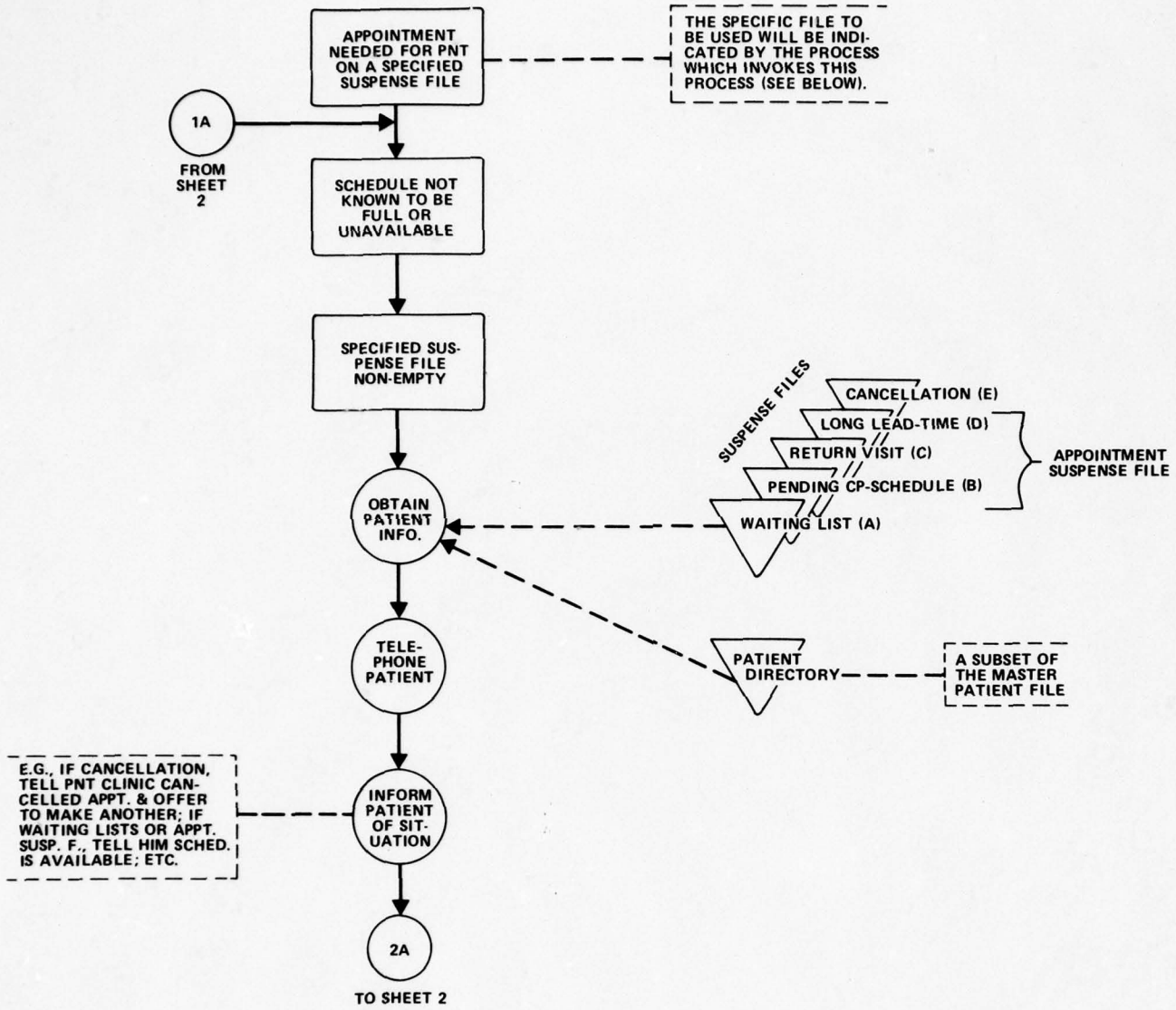
PAS
APPOINTMENT MAKING PROCESS
SHEET 5 OF 5 3 NOV 1975



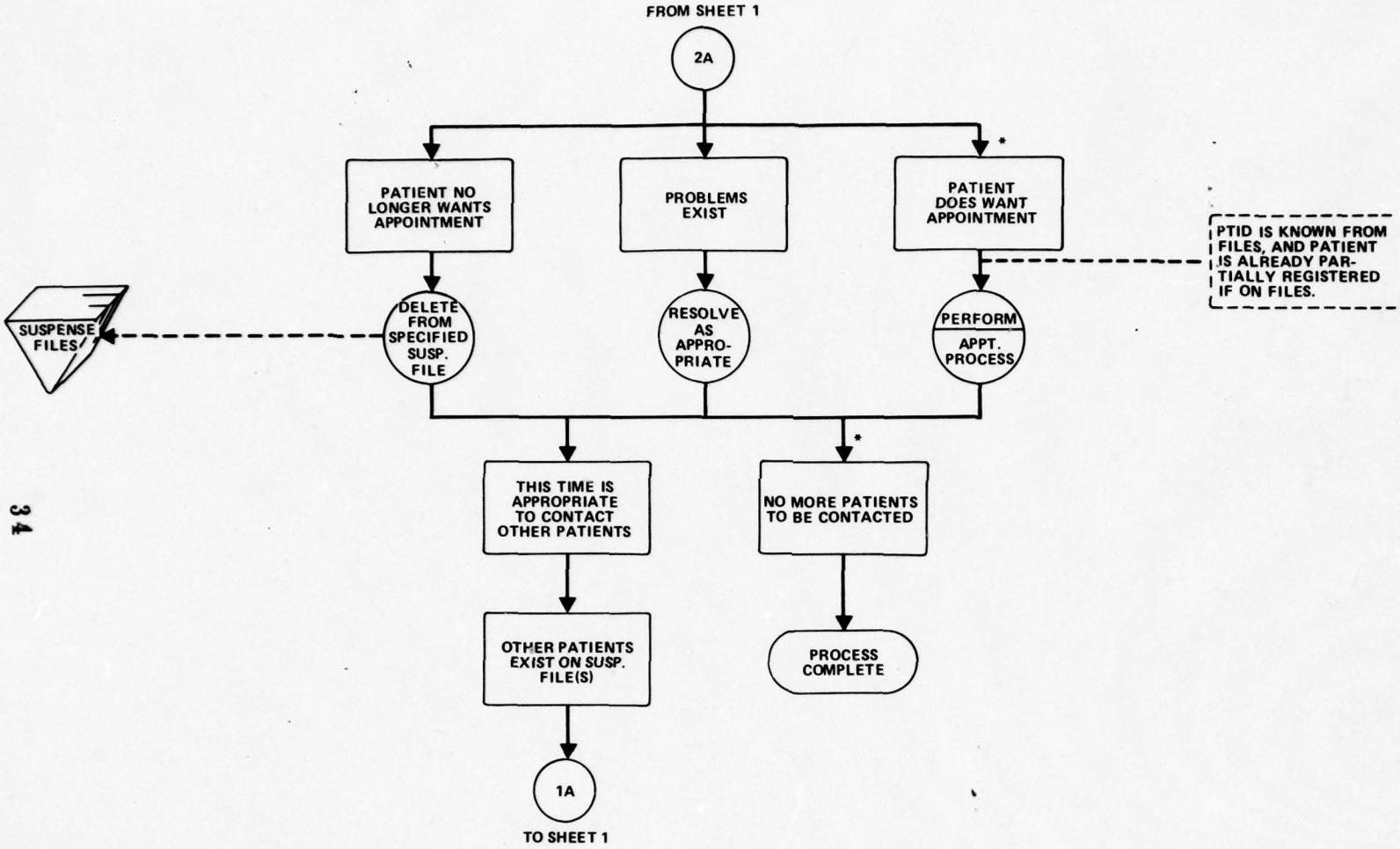
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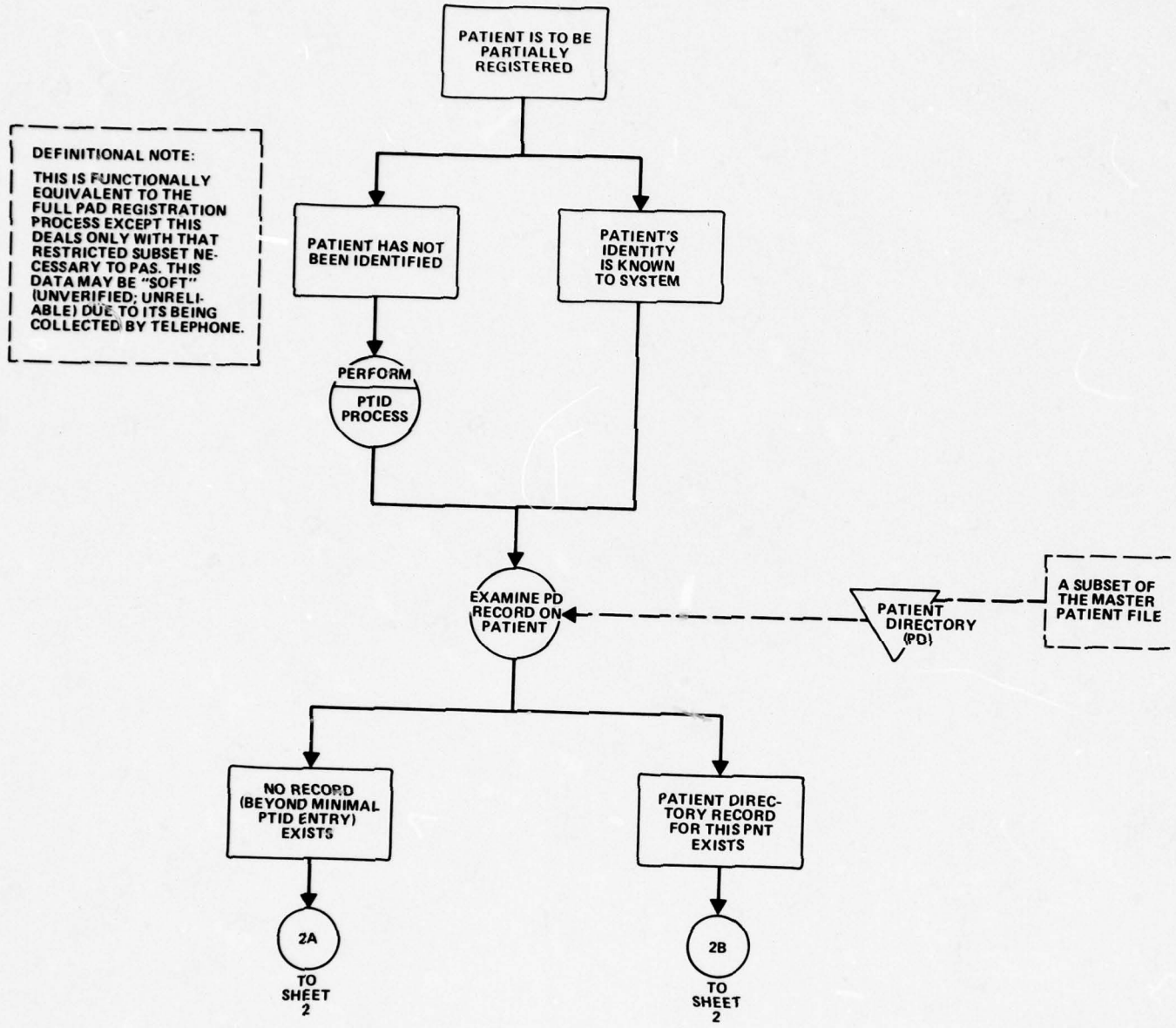
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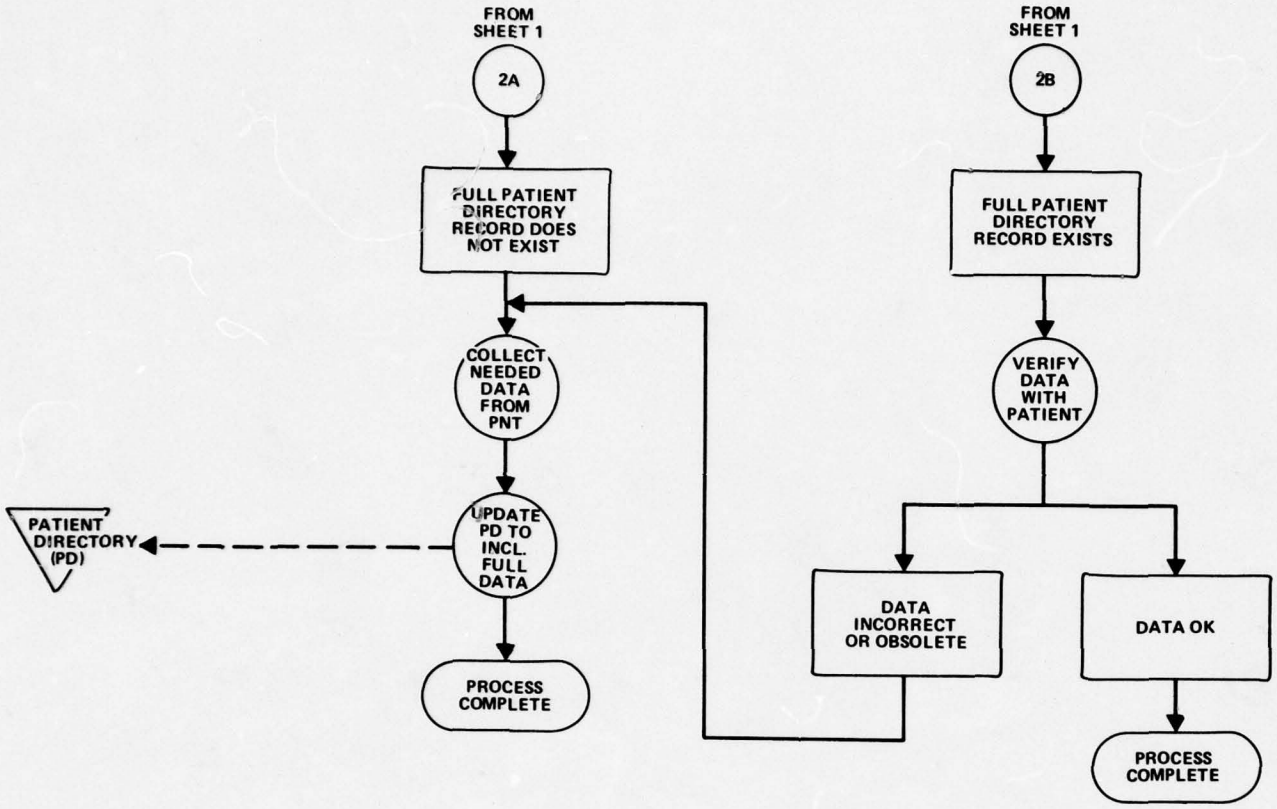
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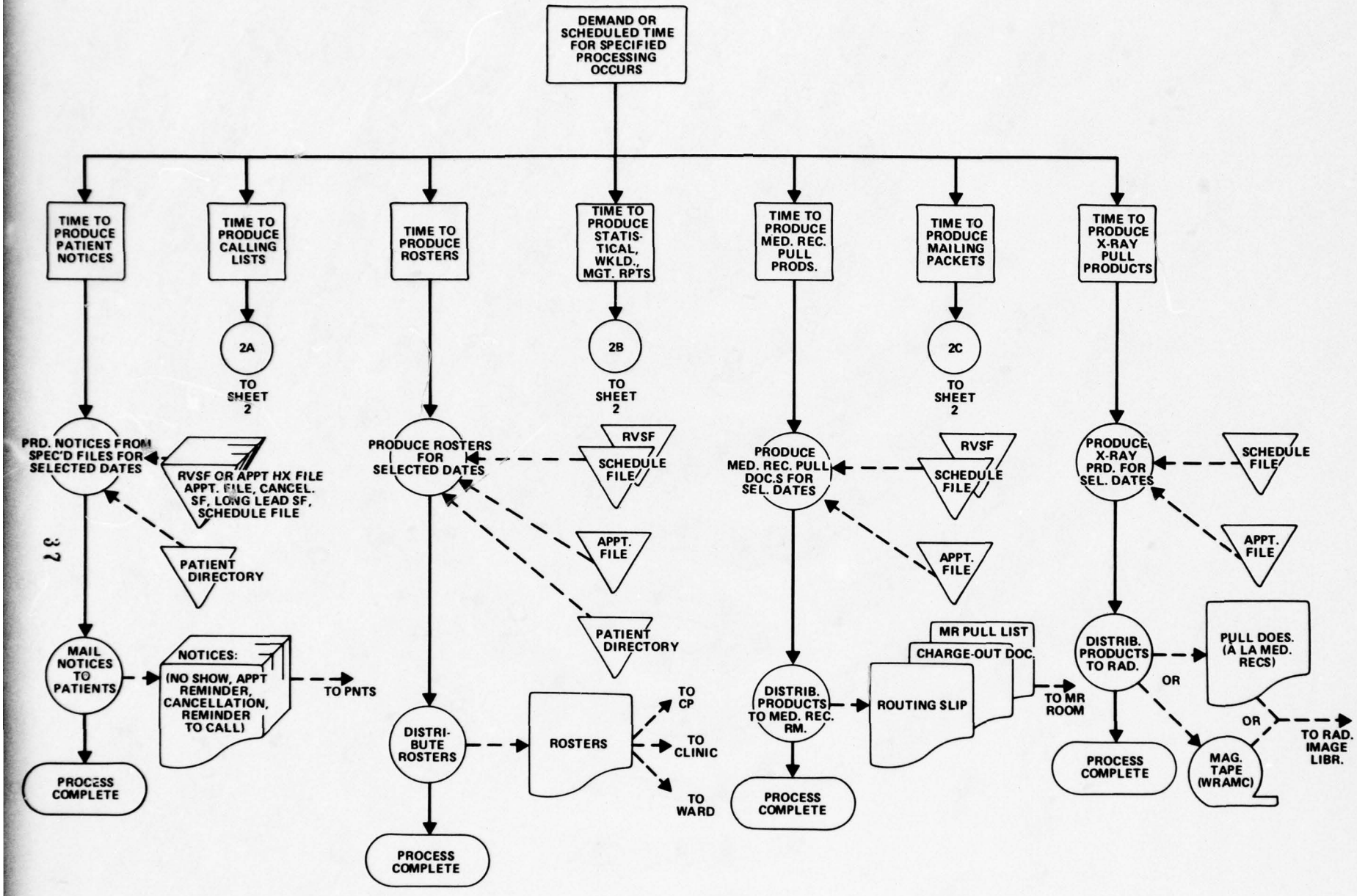
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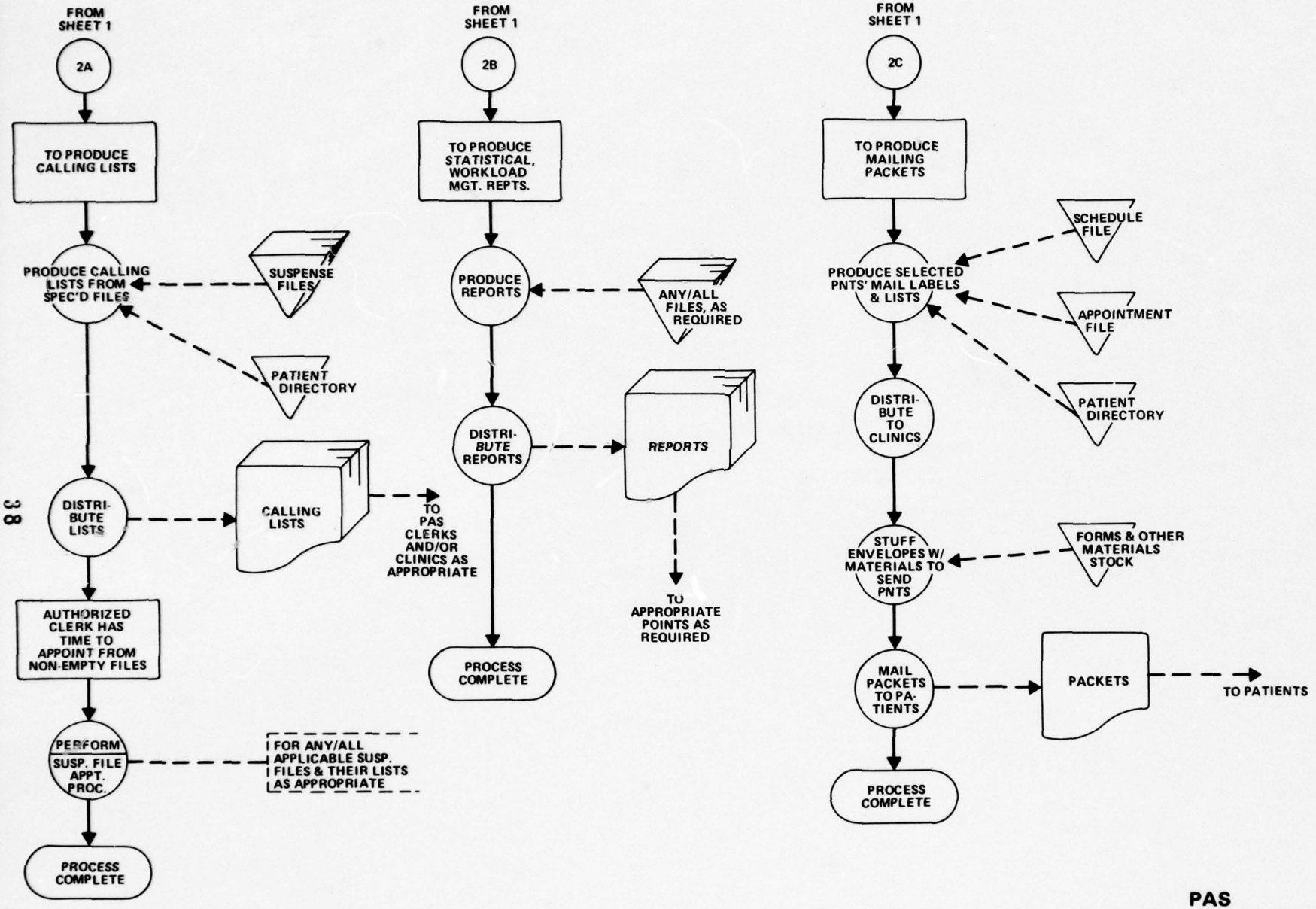
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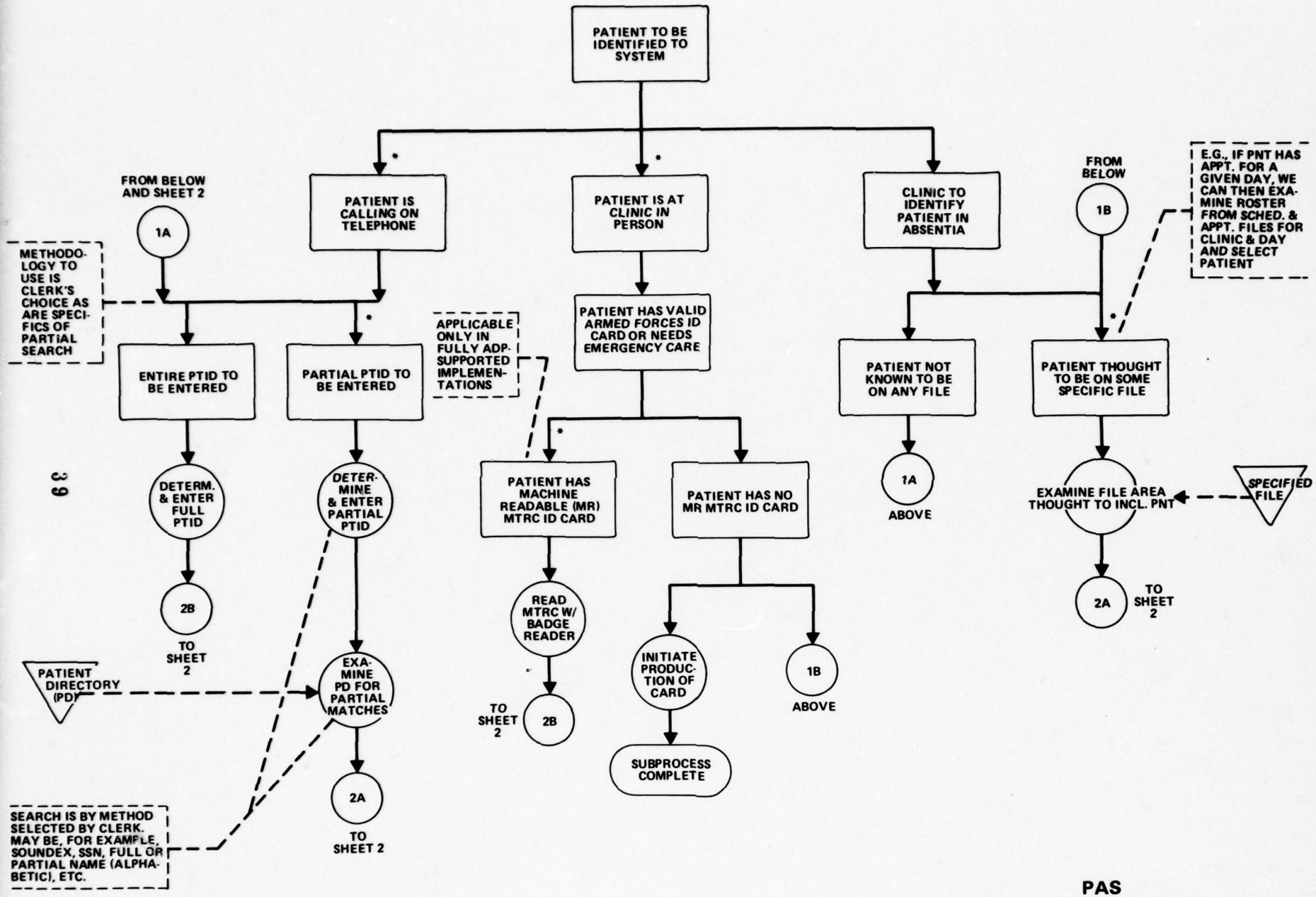
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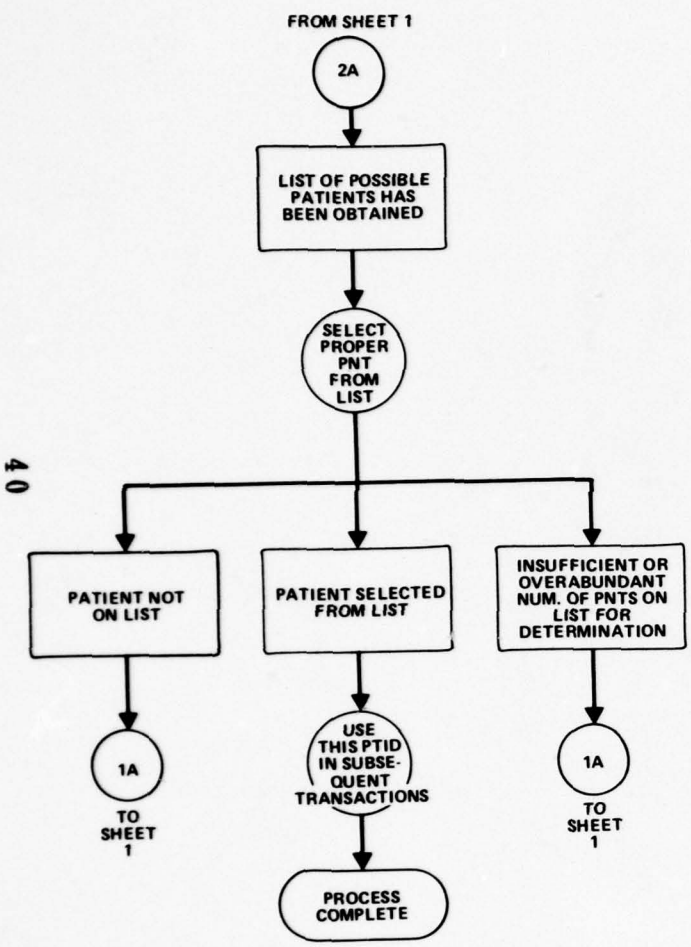
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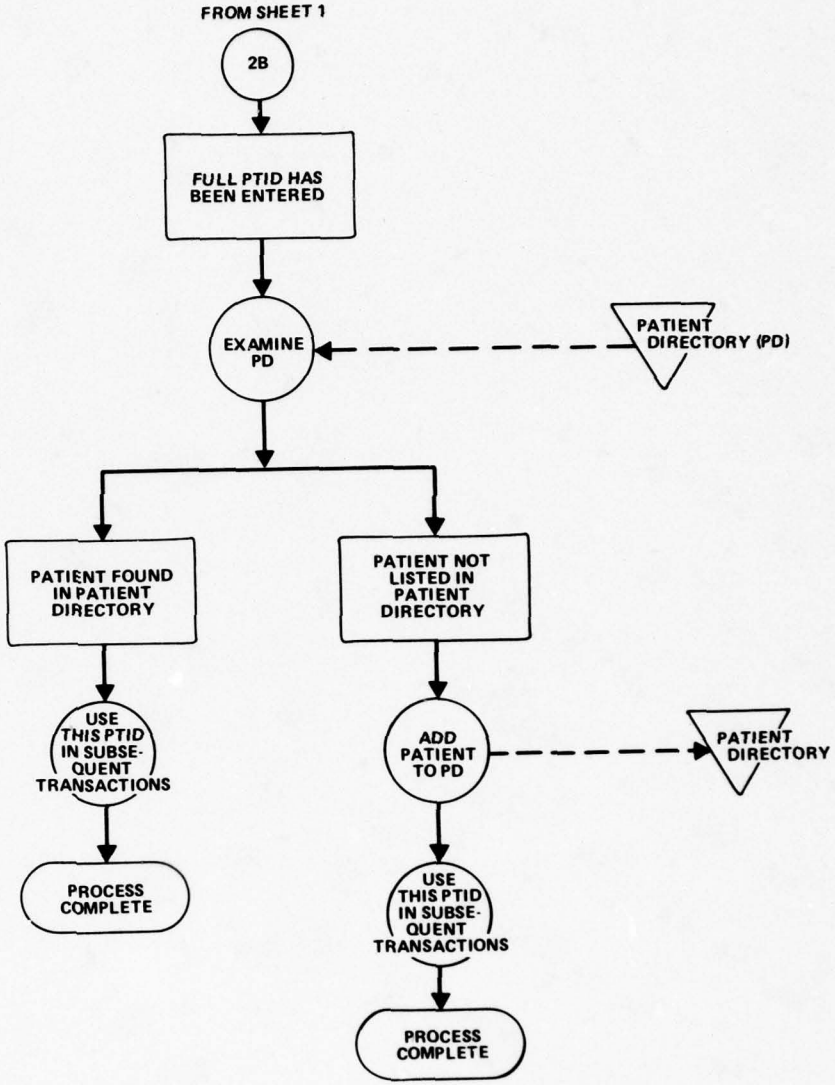


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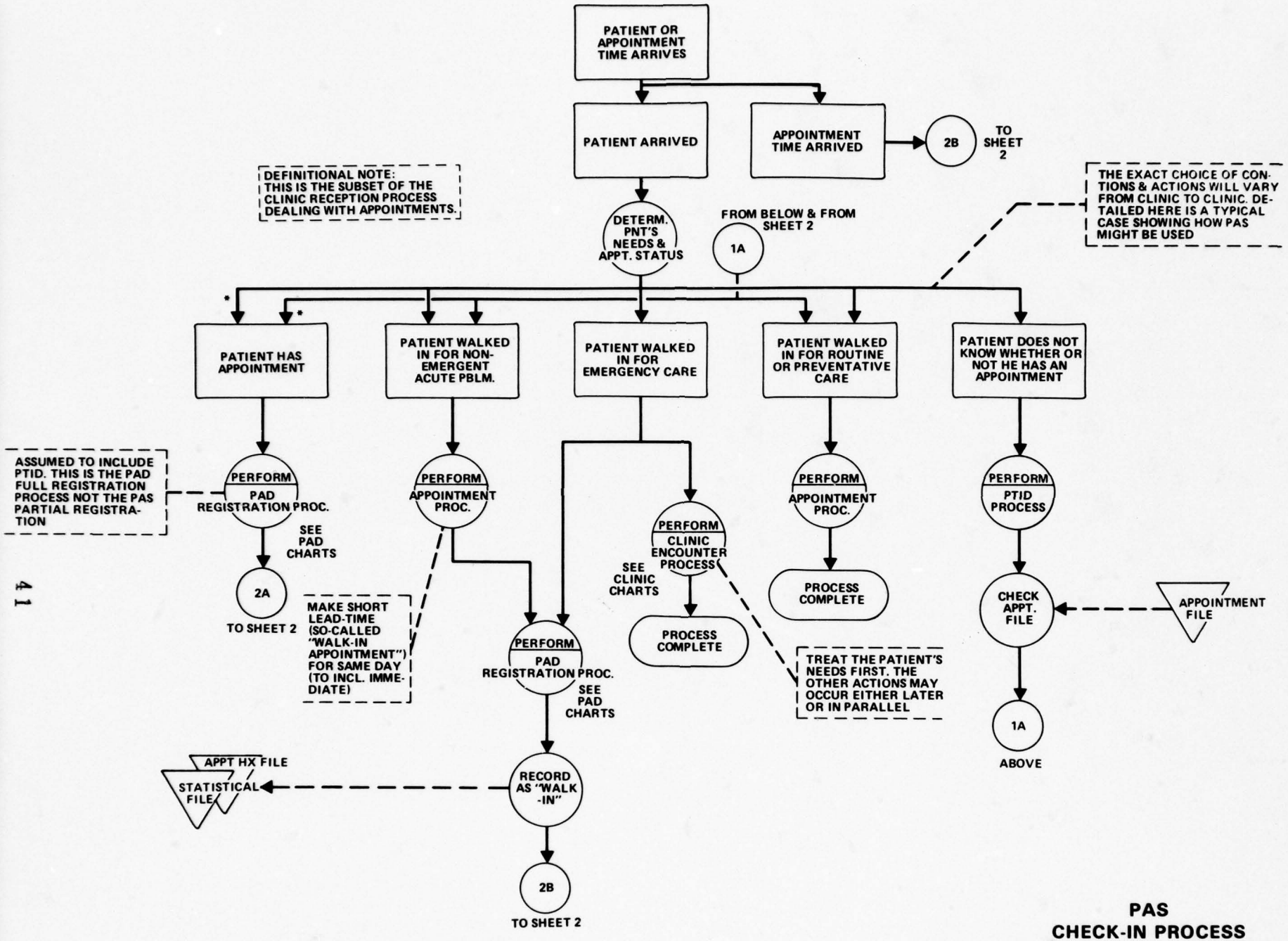


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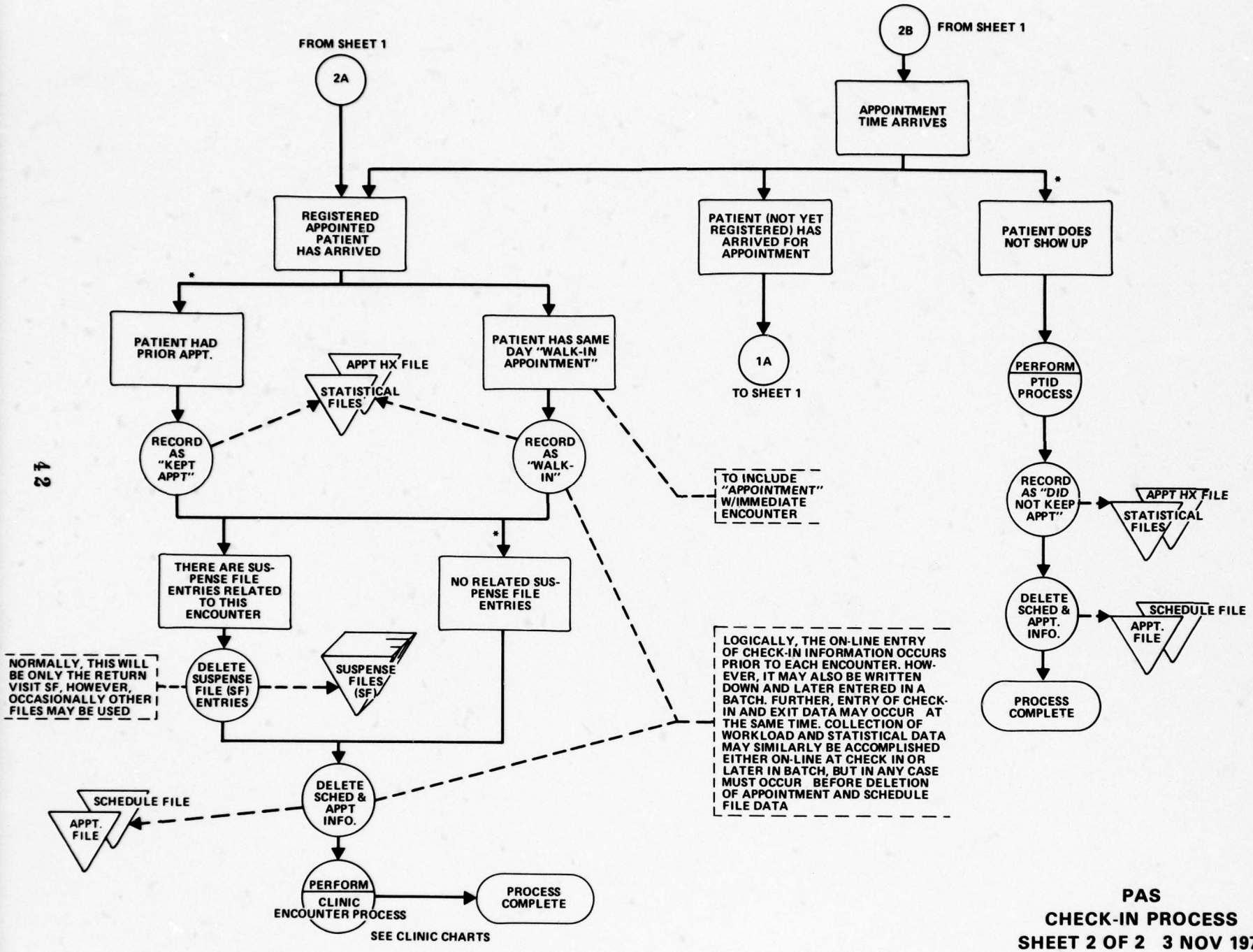




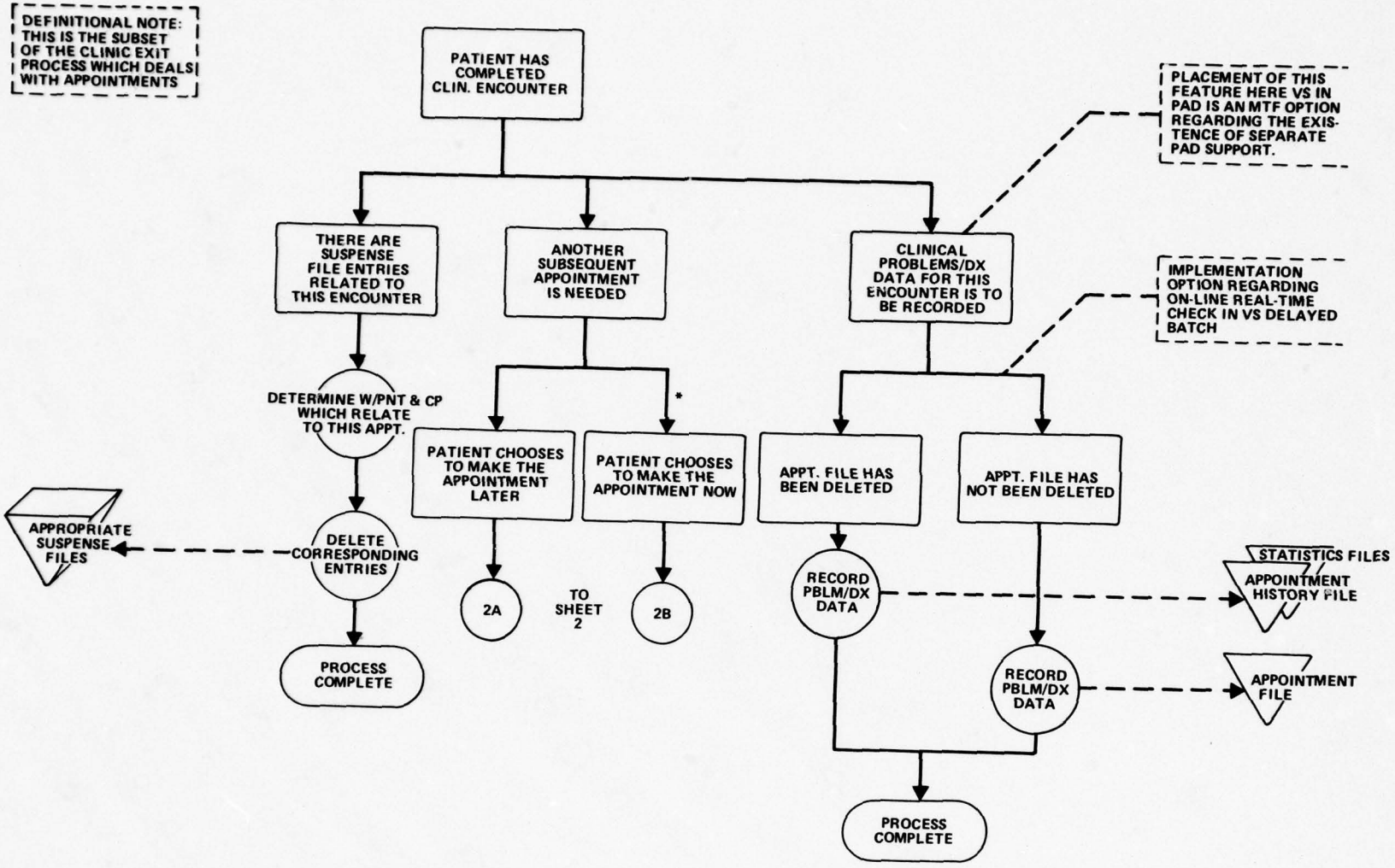
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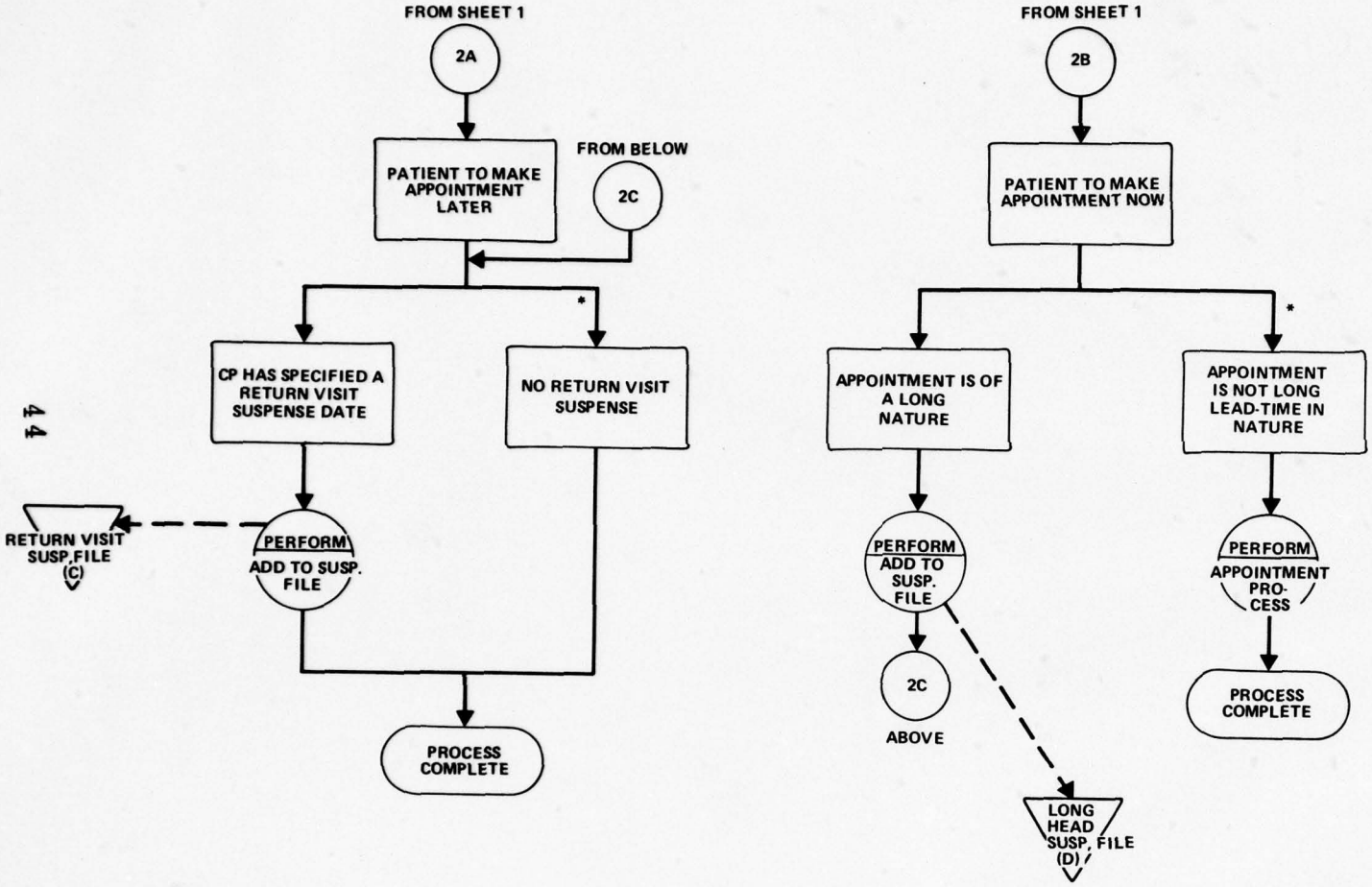
PAS
CHECK-IN PROCESS
SHEET 1 OF 2 3 NOV 1975



PAS
CHECK-IN PROCESS
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PAS
EXIT PROCESS
SHEET 1 OF 2 31 OCT 1975



PAS
EXIT PROCESS
SHEET 2 OF 2 3 NOV 1975

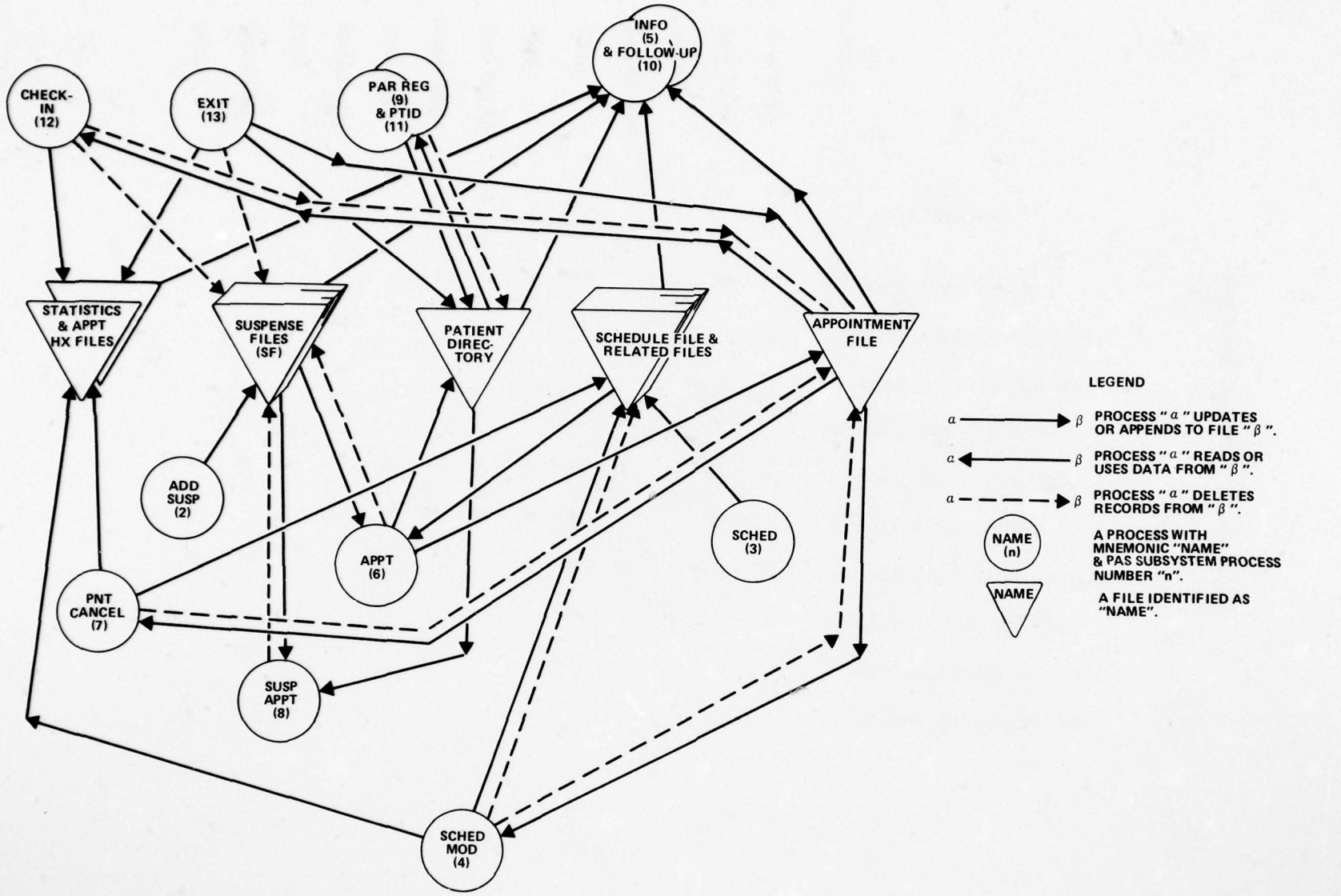
"FILE" DEPENDENCY SUMMARY

PROCESS	FILES	Waiting List SF*	Appt SF*			Cancellation SF*	Schedule file & related files	Master Pnt File			
			Pending CP Sched SF	Return Visit SF	Long Lead SF			Patient Directory	Appointment File	Appt History File	Statistical Files
1. Contact											
2. Add Susp		A	A	A	A	A					
3. Sched							A				
4. Sched Mod							AUD		RD	A	A
5. Info		R	R	R	R	R	R	R	R	R	R
6. Appt		RD	RUD	RD	RD	RD	R	U	RA		
7. Pnt Cancel					RD		U		RD	A	A
8. Susp Appt		RD	RD	RD	RD	RD		R			
9. Par Reg								AUR			
10. Follow-Up		R	R	R	R	R	R	R	R	R	R
11. PTID		(R)	(R)	(R)	(R)	(R)	(R)	RA	(R)		
12. Check-In		D	D	D	(D)	(D)	D		RD	A	A
13. Exit		D	D	D	(D)	(D)		U	U	A	A

LEGEND

R	Process reads or examines data in file	A	Process appends or inserts records into file
D	Process deletes records from file	U	Process updates or modifies existing records in file

( ) Infrequent occurrance



PAS
FILE DEPENDENCIES

EXTERNAL INTERFACES SUMMARY

Process	INTERFACE	- Hard Copy to Pnt	- Hard Copy to Clin/CP	- Hard Copy to Rec Rm	- Hard Copy From Clin	- Soft Info From Pnt	- Soft Info to Pnt	- Soft Info From Clin/CP	- (Soft) Info to Clin	- PAD Registration Proc	- Clinic Encounter Proc
1. Contact						X		X			
2. Add Susp		X					X				
3. Sched					X				X		
4. Sched Mod					X			X	X		
5. Info		X	X			X	X	X	X		
6. Appt		X				X	X	X			
7. Pnt Cancel						X	X				
8. Susp Appt						X	X				
9. Par Reg						X	X				
10. Follow-Up		X	X	X							
11. PTID						X					
12. Check-In						X				X	X
13. Exit						X		X			X

INDEX TO PAS CHARTS

Process	Mnemonic*	Process No.	No. Sheets	Page
Add to Suspense File	Add Susp	2	1	20
Appointment Making	Appt	6	5	26
Check-In (PAS Portion)	Check-in	12	2	41
Clinic/CP Scheduling	Sched	3	2	21
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Suspense File Appointment	Susp Appt	8	2	33

*These are not intended for use as general identifiers, but are only for use with these charts for indexing and cross-referencing purposes.

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AD A043218

TRIMIS-Army Technical Report 1-6

PHARMACY MANUAL SYSTEMS

CONDITION-ACTION DIAGRAM FLOWCHARTS

US ARMY TRIMIS AGENCY
Walter Reed Army Medical Center
Washington, DC 20012

August 1976

Approved for Public Release - Distribution Unlimited

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3. RECIPIENT'S CATALOG NUMBER	
4. TITLE *(and Subtitle)*: PHARMACY MANUAL SYSTEMS CONDITION-ACTION DIAGRAM FLOWCHARTS	5. TYPE OF REPORT & PERIOD COVERED
6. PERFORMING ORG. REPORT NUMBER: N/A	
7. AUTHOR(s): MAJ Michael Beahm; CPT Carey Leverett; SP5 Robert Henry; CPT William Moon	8. CONTRACT OR GRANT NUMBER(s): N/A
9. PERFORMING ORGANIZATION NAME AND ADDRESS: USA TRIMIS Agency, WRAMC, Washington, DC 20012	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: USA TRIMIS Agency, WRAMC, Washington, DC 20012	12. REPORT DATE: August 1976
	13. NUMBER OF PAGES: 133
14. MONITORING AGENCY NAME & ADDRESS*(if different from Controlling Office)*: N/A	15. SECURITY CLASS. *(of this report)*: UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE: N/A

16. DISTRIBUTION STATEMENT *(of this Report)*

Approved for public release: distribution unlimited

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

Same

18. SUPPLEMENTARY NOTES

To be used in conjunction with TRIMIS-ARMY-TR-1-1 Overview.

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Flowchart, Condition-Action Diagram, Health Care, Information System, Drug Distribution, Hospital, Pharmacy, Outpatient Services

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

The purpose of the Pharmacy Manual Systems' condition-action flowcharts is to present an easily understood overview of one goal system of manual operations required to support innovative pharaceutical services and drug distribution systems. It is suggested that the best use for the flowcharts would be as the basis for an introduction or short course which will prompt an extensive internal audit and analysis of current pharmacy operations. Such an analysis should bring to light problems, the resolution of which can have

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a substantial impact on the ability of the pharmacy to support and be involved in improved patient care techniques.

The carts were developed to address the requirements of a 1,280-bed military medical center which also supports a large outpatient population. The system includes the many types of services required from a large active institutional pharmacy and was designed for a decentralized pharmacy operation which supports several inpatient dispensing pharmacies operating throughout the hospital and two large volume outpatient pharmacies.

The charts are a graphic depiction of the steps involved in providing the full range of pharmaceutical services likely to be required by a large military medical center. The charts include provisions for identifying and determining eligibility of patients requiring medication, resolving any problems encountered, and dispensing and delivering medication in whatever manner is required. Processes are also outlined for maintaining inventory control, providing quality control and drug information support, and for supporting the manufacturing and prepackaging processes necessary for the preparation and packaging of speciality products.

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*These mnemonics are not intended for use as general identifiers, but are used in these charts for indexing and cross-referencing purposes.

ACKNOWLEDGMENTS

The initial analysis and design of these charts was performed by the Pharmacy Team, US Army TRIMIS Agency. The principal personnel involved in this effort were as follows: MAJ Michael R. Beahm, SP5 Robert B. Henry, CPT Carey O. Leverett, and CPT William A. Moon.

PURPOSE

The purpose of the Pharmacy Manual Systems' condition-action flowcharts is to present an easily understood overview of one goal system of manual operations required to support innovative pharmaceutical services and drug distribution systems. It is suggested that the best use for the flowcharts would be as the basis for an introduction or short course which will prompt an extensive internal audit and analysis of current pharmacy operations. Such an analysis should bring to light problems, the resolution of which can have a substantial impact on the ability of the pharmacy to support and be involved in improved patient care techniques.

BACKGROUND

There is a wide diversity in the services offered in pharmacy operations throughout the military medical departments, ranging from the simple dispensing functions of the small outpatient pharmacy in a military health clinic to the wide variety of specialty pharmaceutical services offered in the large military medical center. A comprehensive pharmacy system must be capable of supporting many services including outpatient prescription dispensing, inpatient drug distribution, sterile product preparation, and inventory control functions. The system must be flexible enough to provide support for facilities that have a single centralized pharmacy as well as support for facilities that have a system of decentralized drug distribution with many pharmacies operating throughout the medical facility. Therefore, the pharmacy manual operational systems, as depicted in these charts, include features that may not be implemented at all hospitals and clinics. However, a subset of these systems should suffice for any given treatment facility regardless of specialization or workload.

LIMITATIONS

The charts were developed to address the requirements of a 1280-bed military medical center which also supports a large outpatient population. The system includes the many types of services required from a large active institutional pharmacy and was designed for a decentralized pharmacy operation which supports several inpatient dispensing pharmacies operating throughout the hospital and two large volume outpatient pharmacies, The implementatin of such manual systems requires an adequate number of personnel with the appropriate combination of professional and technical skills.

Most of the functions depicted in the charts are being, or will be, modeled at Walter Reed Army Medical Center. Many of the functions are operational at various military medical centers and Army hospitals. However, the charts describe a goal manual system which is not fully implemented at any known military hospital at this time. The charts are intended as a guideline to improving manual operation and are not intended to be adopted as a standing operating procedure by any single hospital. Development of facility specific charts is encouraged as a meaningful approach to system planning for individual pharmacies which meet local requirements.

OBJECTIVES

The objective of the modern pharmacy practice is to provide the patient or professional staff with the potent medications necessary to treat or diagnose human problems, to provide adequate instructions or information for administering the medication, and to monitor the patients overall drug therapy program to insure that it is free from pharmacological hazards.

In order to provide responsive services the pharmacy must perform a multitude of procedures on a routine basis. The objective of each of the major process cycles are outlined in the following paragraphs.

1. Outpatient Pharmacy Cycle

a. Provide outpatients with medications necessary to treat their problems.

b. Provide professional drug therapy counselling to ambulatory patients.

c. Assist care providers in resolving medication problems.

2. Inpatient Pharmacy Cycle

a. Prepare and deliver IV admixtures and other sterile products and unit dose medications to the wards/units on a scheduled basis.

b. Provide timely response to STAT medication requests and orders which are received out of synchronization with the regularly scheduled deliveries.

c. Assist care providers in resolving medication problems.

3. Non-patient-specific Supply Cycle

Provide drug items to non-pharmacy-controlled dispensing points (i.e., wards, clinics, Emergency kits, CPR carts, MOD cabinets, etc.).

4. Inventory Control

a. Assure that medication stocks of formulary items are maintained at normal operating levels in the satellite dispensing pharmacies as well as in the central support pharmacy to provide maximum availability of drug items.

b. Obtain medications that are either not on hand or not normally stocked when necessary for specific therapy or diagnosis.

5. Manufacturing/Prepacking Cycle

a. Manufacture those items that are not available from commercial sources, or which must be compounded within the pharmacy for other reasons.

b. Repackage bulk stock into more usable package sizes.

6. Pharmacy Quality Control

Insure that the highest possible standards are maintained in the pharmacy service. This function includes monitoring of the quality of products, accuracy and calibration of equipment, and the expertise of and techniques used by all pharmacy personnel.

7. Drug Information Function

a. Maintain and provide on request information pertinent to drug therapy to patients and care providers.

b. Maintain a formulary of effective drugs and dosage forms.

OVERVIEW

The charts are a graphic depiction of the steps involved in providing the full range of pharmaceutical services likely to be required by a large military medical center. The charts include provisions for identifying and determining eligibility of patients requiring medication, resolving any problems encountered, and dispensing and delivering medication in whatever manner is required. Processes are also outlined for maintaining inventory control, providing quality control and drug information support, and for supporting the manufacturing and prepackaging processes necessary for the preparation and packaging of speciality products.

EXPECTED BENEFITS

1. Improved management control and service responsiveness.
2. Centralized administrative and supply support.
3. Uniform and complete workload data collection.
4. Greater flexibility and support capability.
5. Greater staff knowledge of ward/clinic operations and procedures.
6. Improved record retrieval, documentation, and roster generation.
7. Improved utilization of professional, supportive and physical facility resources.
8. Improved patient and professional satisfaction.

SUBSYSTEM INTERFACES

The major interface is with the Wards and Clinics System which is responsible for prescribing, ordering, and, in the case of inpatients, administering medications. Other interfaces with Laboratory, Radiology, Logistics, Food Service, and Patient Administration provide the information, exchange support, and services required to provide comprehensive pharmaceutical services.

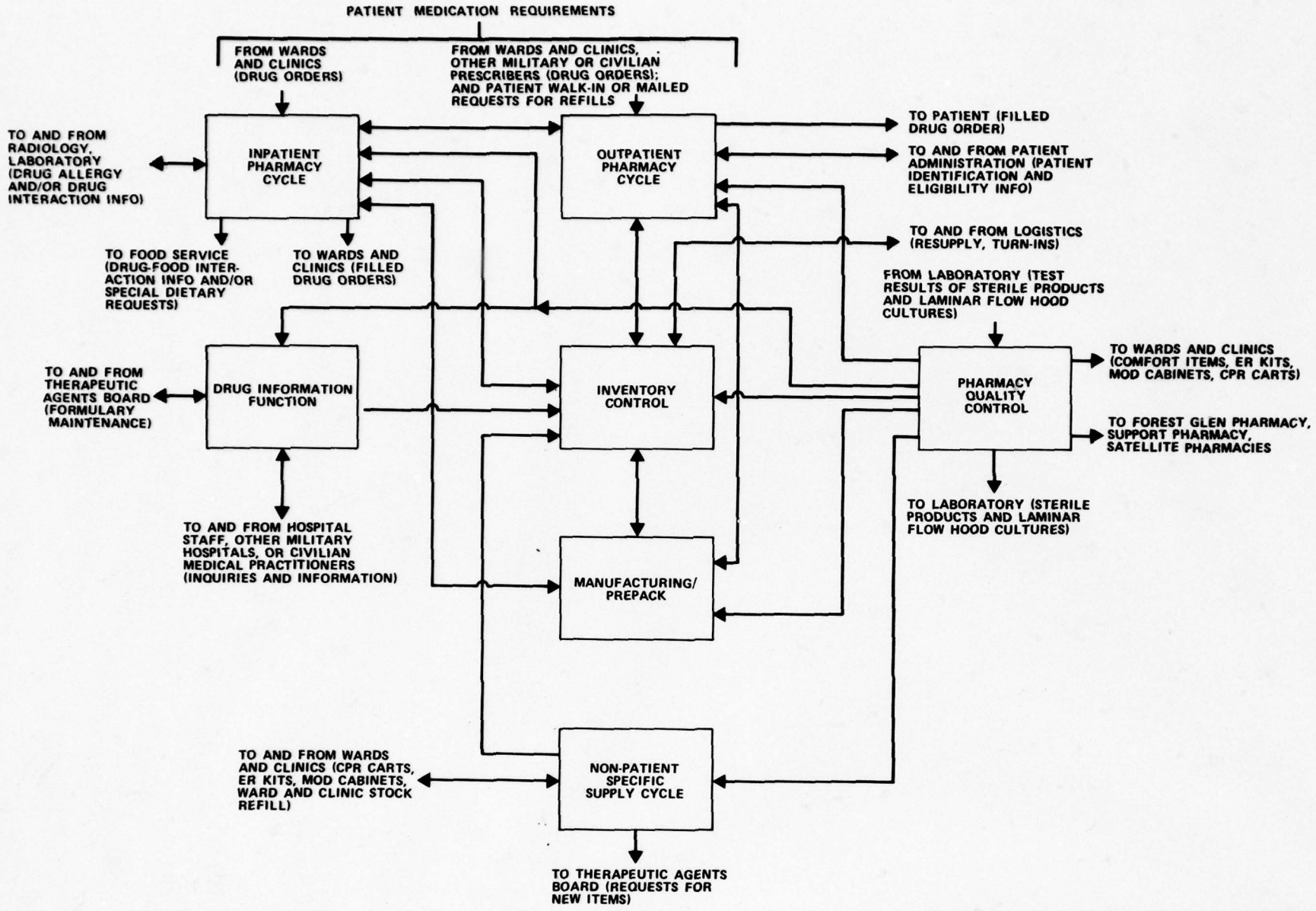
AMENDABILITY TO APD SUPPORT

These charts represent the first step in detailing the requirement for a computer supported pharmacy system. The charts may be used to determine the processing requirements of an automated pharmacy system. These will assist the developer of an automated pharmacy system in detecting potential or existing problem areas, and can be used to help resolve the problems. Although the system can be implemented without any computer support, it is designed to detail the manual requirements and procedures of the computer assisted pharmacy system specified by the TRIMIS Pharmacy Subsystem technical workbook (TTW, Section 15).

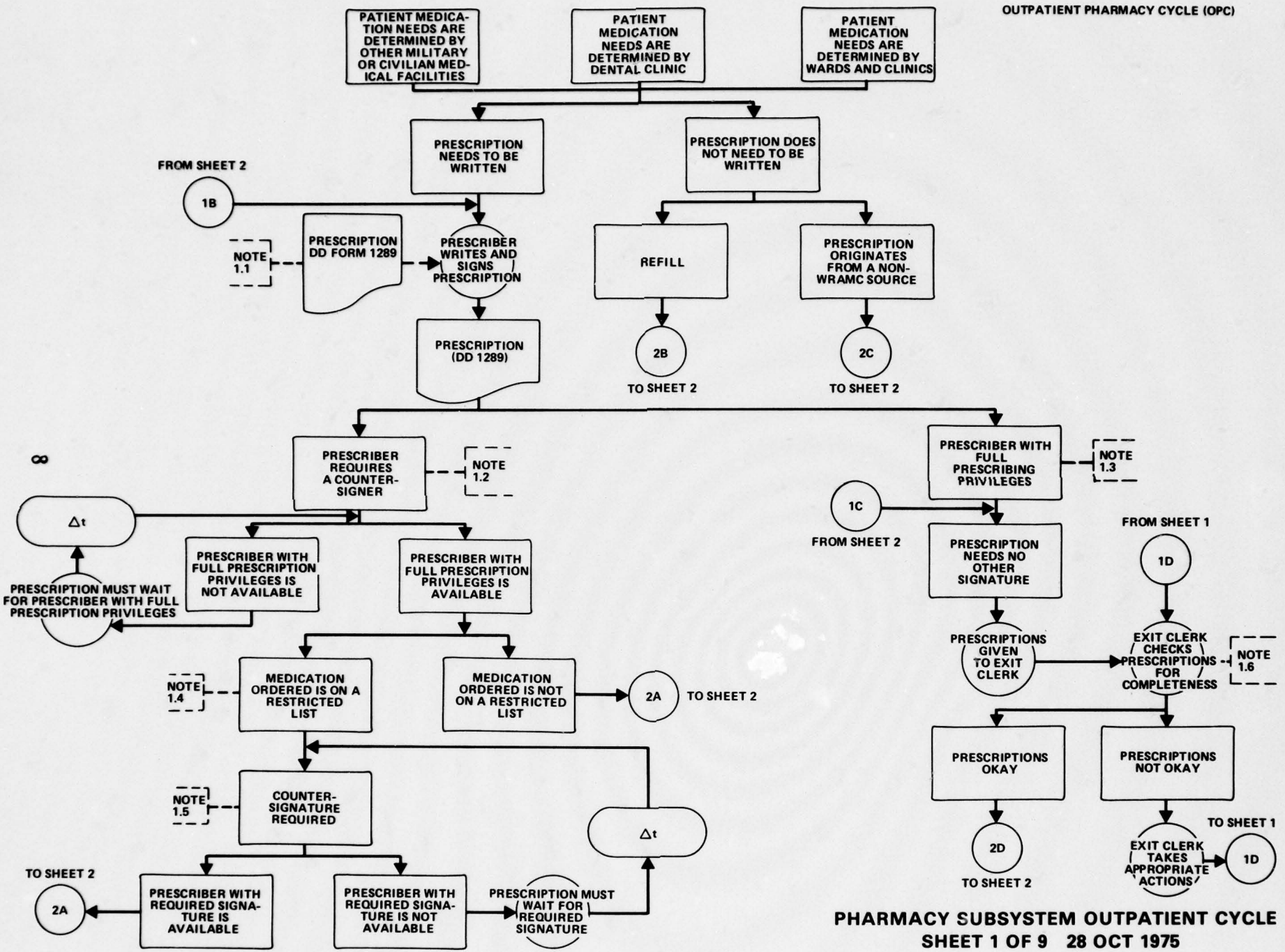
PHARMACY ABBREVIATIONS

APS	Automated Prescription System semi-automated oral solid dispensing units.
ASHP	American Society of Hospital Pharmacists
COMMO	Communications
Consult	Consultation
CPR Cart	Cardio-pulmonary Resuscitation Cart
DA	Department of the Army
DC'D	Discontinued
DD	Department of Defense
ER Kit	Emergency Kit
FDA	Food and Drug Administration
HQ	Headquarters
ID	Identification
Info	Information
IV	Intravenous
Lab	Laboratory
Med	Medication
MMM	Medical Materiel Manager
OIC	Officer in charge
PAD	Patient Administration Division
P & C	Purchasing and Contracting

RN	Registered Nurse
RNWD	Renewed
RX	*Prescription*
SF	Standard Form
STAT	Immediate
TAB	Therapeutic Agents Board; tablet
Tech	Technician
USP	United States Pharmacopeia
W/-	with
WRAMC	Walter Reed Army Medical Center



PHARMACY SUBSYSTEM
FUNCTIONAL OVERVIEW
28 OCT 75



PHARMACY SUBSYSTEM OUTPATIENT CYCLE
SHEET 1 OF 9 28 OCT 1975

NOTES ON OUTPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 1

1.1 The prescriber fills out a one-part DD Form 1289. The data elements to be included on this form are: patient's name, address, phone number, date of order, medication name & strength, dosage instructions, amount of medication, number of refills authorized, prescriber's signature, and, if applicable, printed prescriber's name, rank, corps and BNDD or SSN number. Only one medication may be ordered per form. The prescriber will also indicate on the prescription if this patient should be added to the pharmacy's Patient Profile series (mostly chronic care patients).

1.2 This prescriber is an individual who can prescribe any medications which are not controlled or which are not on a restricted use list. This individual would be an Amosist, a nurse clinican/practitioner, physician's assistant, etc. Each prescriber of this type has a predetermined list of medications he/she can prescribe without a doctor's countersignature (under this condition the prescriber has full prescribing privileges). These lists are periodically reviewed and updated by the Therapeutic Agents Board. In certain cases a prescriber with full prescribing privileges can be considered a prescriber requiring a countersignature (i.e., he/she writes for an investigational medication).

1.3 This is a prescriber who can prescribe most medications including controlled medications (but excluding restricted medications) without the approval of any other prescriber.

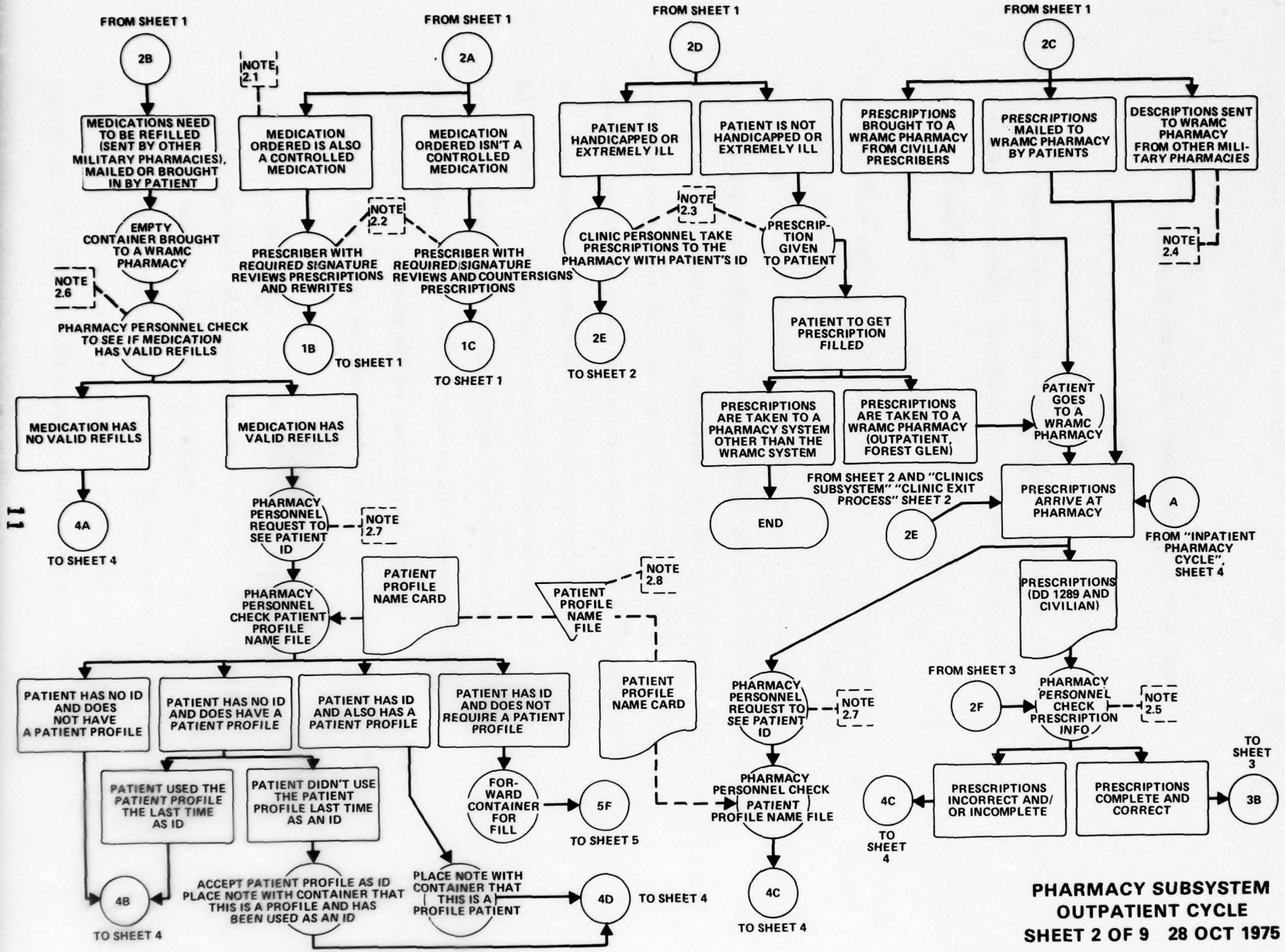
NOTES ON OUTPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 1 (CONTINUED)

1.4 The restricted medications are either limited to a specific service or doctor, or require the signature of the chief of the prescribing doctor's service or signature of a specifically authorized professional person. An example of the first case is an investigational medication (restricted by doctor) or dermatology medications (restricted to Dermatology Service).

1.5 A countersignature is required when the medication is designated to require a countersignature by the Therapeutic Agents Board (TAB) and the hospital commander or by the hospital commander alone. Types of countersignatures would be Chief of Service, doctor of a specific service, or a specific doctor.

1.6 The exit clerk checks to see that the patient's name, address, phone number, and (if applicable) age of patient are annotated on the prescription(s). The exit clerk will also check to assure that the prescription is signed and if applicable, the printed prescriber's name, rank, corps, and BNDD or SSN number is in the signature block when a controlled drug is prescribed.


FROM SHEET 1
2B
MEDICATIONS NEED TO BE REFILLED (SENT BY OTHER MILITARY PHARMACIES), MAILED OR BROUGHT IN BY PATIENT
EMPTY CONTAINER BROUGHT TO A WRAMC PHARMACY
NOTE 2.6
PHARMACY PERSONNEL CHECK TO SEE IF MEDICATION HAS VALID REFILLS
MEDICATION HAS NO VALID REFILLS
MEDICATION HAS VALID REFILLS
4A
TO SHEET 4
PHARMACY PERSONNEL REQUEST TO SEE PATIENT ID
NOTE 2.7
PHARMACY PERSONNEL CHECK PATIENT PROFILE NAME FILE
PATIENT PROFILE NAME CARD
PATIENT PROFILE NAME FILE
NOTE 2.8
PATIENT HAS NO ID AND DOES NOT HAVE A PATIENT PROFILE
PATIENT HAS NO ID AND DOES HAVE A PATIENT PROFILE
PATIENT HAS ID AND ALSO HAS A PATIENT PROFILE
PATIENT HAS ID AND DOES NOT REQUIRE A PATIENT PROFILE
PATIENT USED THE PATIENT PROFILE THE LAST TIME AS ID
PATIENT DIDN'T USE THE PATIENT PROFILE LAST TIME AS AN ID
4B
TO SHEET 4
ACCEPT PATIENT PROFILE AS ID PLACE NOTE WITH CONTAINER THAT THIS IS A PROFILE AND HAS BEEN USED AS AN ID
PLACE NOTE WITH CONTAINER THAT THIS IS A PROFILE PATIENT
4D
TO SHEET 4
FOR-WARD CONTAINER FOR FILL
5F
TO SHEET 5
FROM SHEET 1
2A
NOTE 2.1
MEDICATION ORDERED IS ALSO A CONTROLLED MEDICATION
MEDICATION ORDERED ISN'T A CONTROLLED MEDICATION
NOTE 2.2
PRESCRIBER WITH REQUIRED SIGNATURE REVIEWS PRESCRIPTIONS AND REWRITES
PRESCRIBER WITH REQUIRED SIGNATURE REVIEWS AND COUNTERSIGNS PRESCRIPTIONS
1B
TO SHEET 1
1C
TO SHEET 1
FROM SHEET 1
2D
PATIENT IS HANDICAPPED OR EXTREMELY ILL
PATIENT IS NOT HANDICAPPED OR EXTREMELY ILL
NOTE 2.3
CLINIC PERSONNEL TAKE PRESCRIPTIONS TO THE PHARMACY WITH PATIENT'S ID
PRESCRIP-TION GIVEN TO PATIENT
2E
TO SHEET 2
PATIENT TO GET PRESCRIPTION FILLED
PRESCRIPTIONS ARE TAKEN TO A PHARMACY SYSTEM OTHER THAN THE WRAMC SYSTEM
PRESCRIPTIONS ARE TAKEN TO A WRAMC PHARMACY (OUTPATIENT, FOREST GLEN)
END
FROM SHEET 1
2C
PRESCRIPTIONS BROUGHT TO A WRAMC PHARMACY FROM CIVILIAN PRESCRIBERS
PRESCRIPTIONS MAILED TO WRAMC PHARMACY BY PATIENTS
DESCRIPTIONS SENT TO WRAMC PHARMACY FROM OTHER MILI-TARY PHARMACIES
NOTE 2.4
PATIENT GOES TO A WRAMC PHARMACY
FROM SHEET 2 AND "CLINICS SUBSYSTEM" "CLINIC EXIT PROCESS" SHEET 2
2E
PRESCRIPTIONS ARRIVE AT PHARMACY
A
FROM "INPATIENT PHARMACY CYCLE", SHEET 4
PRESCRIPTIONS (DD 1289 AND CIVILIAN)
PHARMACY PERSONNEL REQUEST TO SEE PATIENT ID
NOTE 2.7
PHARMACY PERSONNEL CHECK PATIENT PROFILE NAME FILE
4C
TO SHEET 4
FROM SHEET 3
2F
PHARMACY PERSONNEL CHECK PRESCRIPTION INFO
NOTE 2.5
PRESCRIPTIONS INCORRECT AND/ OR INCOMPLETE
4C
TO SHEET 4
PRESCRIPTIONS COMPLETE AND CORRECT
3B
TO SHEET 3
PHARMACY SUBSYSTEM
OUTPATIENT CYCLE
SHEET 2 OF 9 28 OCT 1975

NOTES ON OUTPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 2

2.1 Those medications to be controlled as indicated by the Drug Enforcement Administration (DEA), Army Regulations, and/or the hospital commander.

2.2 If, after reviewing the prescription(s), the reviewing prescriber disagrees with the ordering prescriber, he will not countersign or rewrite the prescription(s) and the process stops. The reviewing prescriber must concur with the ordering prescriber before he will countersign or rewrite the prescription(s). The reviewing prescriber may also have the option of writing prescription(s) for other medications when he is in disagreement with the ordering prescriber. The rewriting of a prescription is necessary if it is for a controlled medication. When a controlled medication is prescribed the prescription requires the printed name, rank, corps and BNDD or SSN number for each signature which appears on the prescription (due to lack of space the prescription must be rewritten).

2.3 After normal duty hours for the outpatient pharmacy, the 4th floor pharmacy will support the outpatient prescription load. The main differences between the usual outpatient cycle and the after duty hours cycle are: (1) If the patient is handicapped or extremely ill either the clinic personnel (or escort, messenger) can bring the prescription(s) to the 4th floor pharmacy or clinic

NOTES ON OUTPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 2 (CONTINUED)

personnel can send the prescription via the Telelift (when working) to the 4th floor (2) If the patient is not handicapped or extremely ill the clinic personnel can send the patients with the prescription(s) to the 4th floor pharmacy or they can still send the prescription(s) via the Telelift (when working) to the 4th floor (requires clinic staff to explain the patient's medication instructions before dispensing).

2.4 Some military pharmacies in the Military District of Washington (MDW) area have a prescription fill agreement with WRAMC. If they don't have the medicine, they can send the prescriptions to WRAMC and see if WRAMC stocks the medication. These prescriptions are usually transported by couriers or on ambulance runs.

2.5 The information checked is patient's name, address, phone number, date of prescription, medication name, strength, dosage instructions, amount of drug (not to exceed 30-day amount), number of refills (not to exceed 5), prescriber's signature, and, if applicable, printed prescriber's name, rank, corps, BNDD or SSN number. If more than one prescription, check for contraindications between prescribed medications. Any of the above elements could be incomplete or incorrect and require some action to resolve.

2.6 An invalid refill request is recognized when: (1) a refill is brought in too soon, (2) a refill is requested on a prescription over 6 months old, and, (3) there are no refills left. If a prescription is for a needed chronic care medication, the pharmacy will dispense only enough medication to insure maintenance until the patient can see a prescriber.

NOTES ON OUTPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 2 (CONTINUED)

2.7 The identification (ID) necessary is the patient's official ID card (DD Form 2A and others) and not the outpatient clinic ID card. If the patient has forgotten his official ID card, the outpatient clinic card may be accepted for ID one time only. Whether the clinic card is accepted or not, the patient's name will be placed on a list to be forwarded to the appropriate authorized office (PAD or other) in order to determine if patient is actually still authorized medical care. The patient's name will also be placed on this list if he/she has no ID, but his/her prescription will not be filled. He/she will be sent to the to the authorized office for a certificate of eligibility for medical care.

If the patient has been to WRAMC before with no official ID and has been told it is required, or has presented an expired ID and been asked to get a new one but didn't do so, he/she will be asked to go to the appropriate authorized office for a certificate stating he/she is authorized medical care before the prescription will be filled.

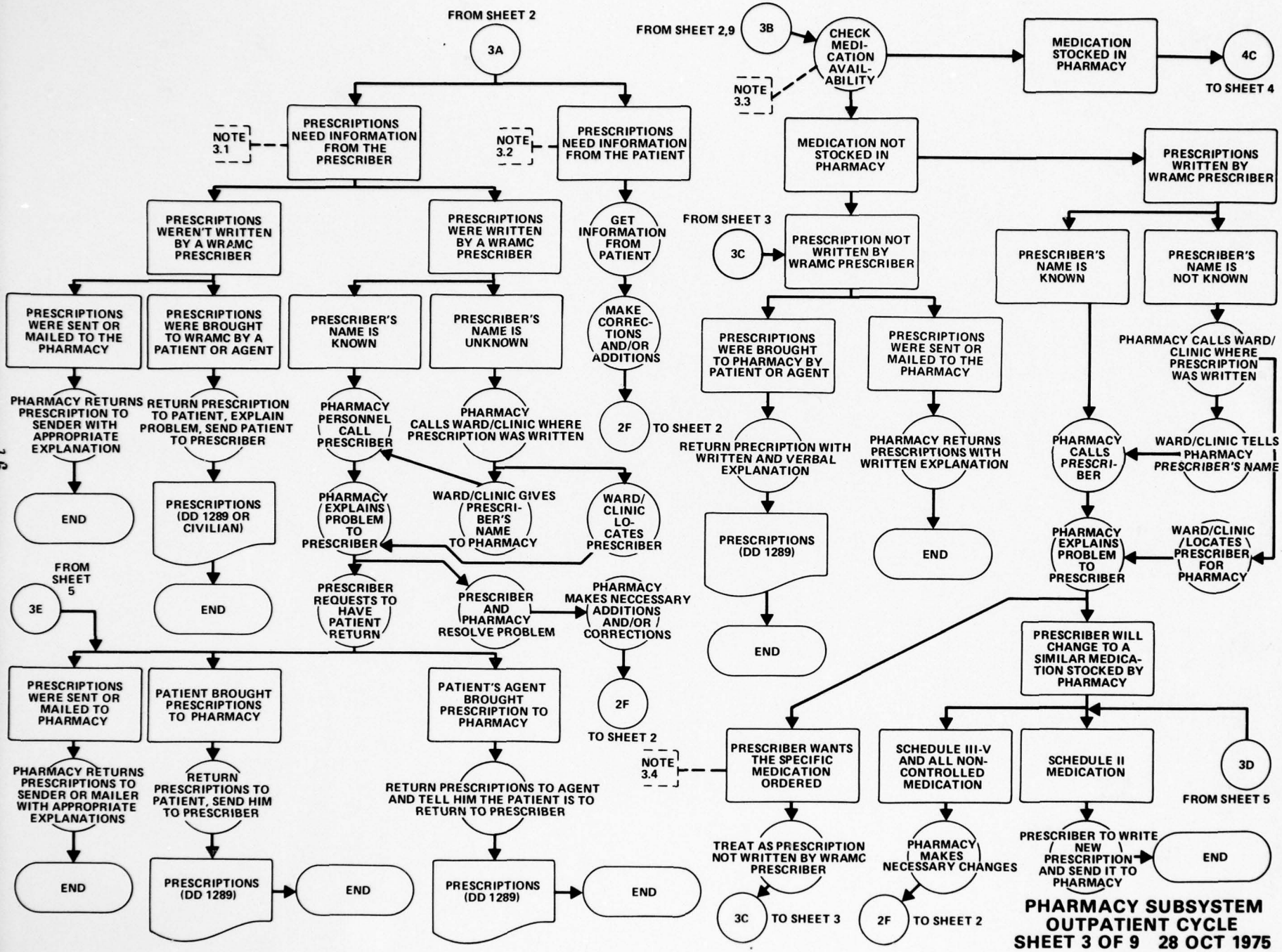
If the patient has a refill or has a patient profile and forgot his/her ID, the pharmacy will accept the refill and profile as a one time only ID. If the medication request comes from another military pharmacy, it is assumed that the patient is eligible for medical care. If it comes by mail it is assumed for the first fill that patient is eligible, and eligibility will be confirmed when the completed Profile questionnaire is sent back with the medication.

2.8 The Patient Profile Name File is a rotary file consisting of the

NOTES ON OUTPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 2 (CONTINUED)

names of all patients with a patient profile maintained by the pharmacy. It is kept in alphabetical order. If a patient's name appears on this file, the file can be used as a one (1) time ID and if used as such it is noted on patient's file card. After normal duty hours this file is taken to the 4th floor pharmacy along with the Patient Profiles (file tub) and is brought back to the outpatient pharmacy the next duty morning.


FROM SHEET 2
3A
NOTE 3.1
PRESCRIPTIONS NEED INFORMATION FROM THE PRESCRIBER
NOTE 3.2
PRESCRIPTIONS NEED INFORMATION FROM THE PATIENT
PRESCRIPTIONS WEREN'T WRITTEN BY A WRAMC PRESCRIBER
PRESCRIPTIONS WERE WRITTEN BY A WRAMC PRESCRIBER
GET INFORMATION FROM PATIENT
PRESCRIPTIONS WERE SENT OR MAILED TO THE PHARMACY
PRESCRIPTIONS WERE BROUGHT TO WRAMC BY A PATIENT OR AGENT
PRESCRIBER'S NAME IS KNOWN
PRESCRIBER'S NAME IS UNKNOWN
MAKE CORRECTIONS AND/OR ADDITIONS
PHARMACY RETURNS PRESCRIPTION TO SENDER WITH APPROPRIATE EXPLANATION
RETURN PRESCRIPTION TO PATIENT, EXPLAIN PROBLEM, SEND PATIENT TO PRESCRIBER
PHARMACY PERSONNEL CALL PRESCRIBER
PHARMACY CALLS WARD/CLINIC WHERE PRESCRIPTION WAS WRITTEN
2F
TO SHEET 2
END
PRESCRIPTIONS (DD 1289 OR CIVILIAN)
PHARMACY EXPLAINS PROBLEM TO PRESCRIBER
WARD/CLINIC GIVES PRESCRIBER'S NAME TO PHARMACY
WARD/CLINIC LOCATES PRESCRIBER
FROM SHEET 5
3E
END
PRESCRIBER REQUESTS TO HAVE PATIENT RETURN
PRESCRIBER AND PHARMACY RESOLVE PROBLEM
PHARMACY MAKES NECCESSARY ADDITIONS AND/OR CORRECTIONS
PRESCRIPTIONS WERE SENT OR MAILED TO PHARMACY
PATIENT BROUGHT PRESCRIPTIONS TO PHARMACY
PATIENT'S AGENT BROUGHT PRESCRIPTION TO PHARMACY
2F
TO SHEET 2
PHARMACY RETURNS PRESCRIPTIONS TO SENDER OR MAILER WITH APPROPRIATE EXPLANATIONS
RETURN PRESCRIPTIONS TO PATIENT, SEND HIM TO PRESCRIBER
RETURN PRESCRIPTIONS TO AGENT AND TELL HIM THE PATIENT IS TO RETURN TO PRESCRIBER
END
PRESCRIPTIONS (DD 1289)
END
PRESCRIPTIONS (DD 1289)
END
FROM SHEET 2,9
3B
CHECK MEDICATION AVAILABILITY
NOTE 3.3
MEDICATION STOCKED IN PHARMACY
4C
TO SHEET 4
MEDICATION NOT STOCKED IN PHARMACY
PRESCRIPTIONS WRITTEN BY WRAMC PRESCRIBER
FROM SHEET 3
3C
PRESCRIPTION NOT WRITTEN BY WRAMC PRESCRIBER
PRESCRIBER'S NAME IS KNOWN
PRESCRIBER'S NAME IS NOT KNOWN
PRESCRIPTIONS WERE BROUGHT TO PHARMACY BY PATIENT OR AGENT
PRESCRIPTIONS WERE SENT OR MAILED TO THE PHARMACY
PHARMACY CALLS WARD/CLINIC WHERE PRESCRIPTION WAS WRITTEN
RETURN PRECRIPTION WITH WRITTEN AND VERBAL EXPLANATION
PHARMACY RETURNS PRESCRIPTIONS WITH WRITTEN EXPLANATION
PHARMACY CALLS PRESCRIBER
WARD/CLINIC TELLS PHARMACY PRESCRIBER'S NAME
PRESCRIPTIONS (DD 1289)
END
END
PHARMACY EXPLAINS PROBLEM TO PRESCRIBER
WARD/CLINIC /LOCATES PRESCRIBER FOR PHARMACY
PRESCRIBER WILL CHANGE TO A SIMILAR MEDICATION STOCKED BY PHARMACY
NOTE 3.4
PRESCRIBER WANTS THE SPECIFIC MEDICATION ORDERED
SCHEDULE III-V AND ALL NON-CONTROLLED MEDICATION
SCHEDULE II MEDICATION
3D
FROM SHEET 5
TREAT AS PRESCRIPTION NOT WRITTEN BY WRAMC PRESCRIBER
PHARMACY MAKES NECESSARY CHANGES
PRESCRIBER TO WRITE NEW PRESCRIPTION AND SEND IT TO PHARMACY
END
3C
TO SHEET 3
2F
TO SHEET 2
PHARMACY SUBSYSTEM
OUTPATIENT CYCLE
SHEET 3 OF 9 28 OCT 1975

NOTES ON OUTPATIENT PHARMACY CYCLE FLOW CHARTS

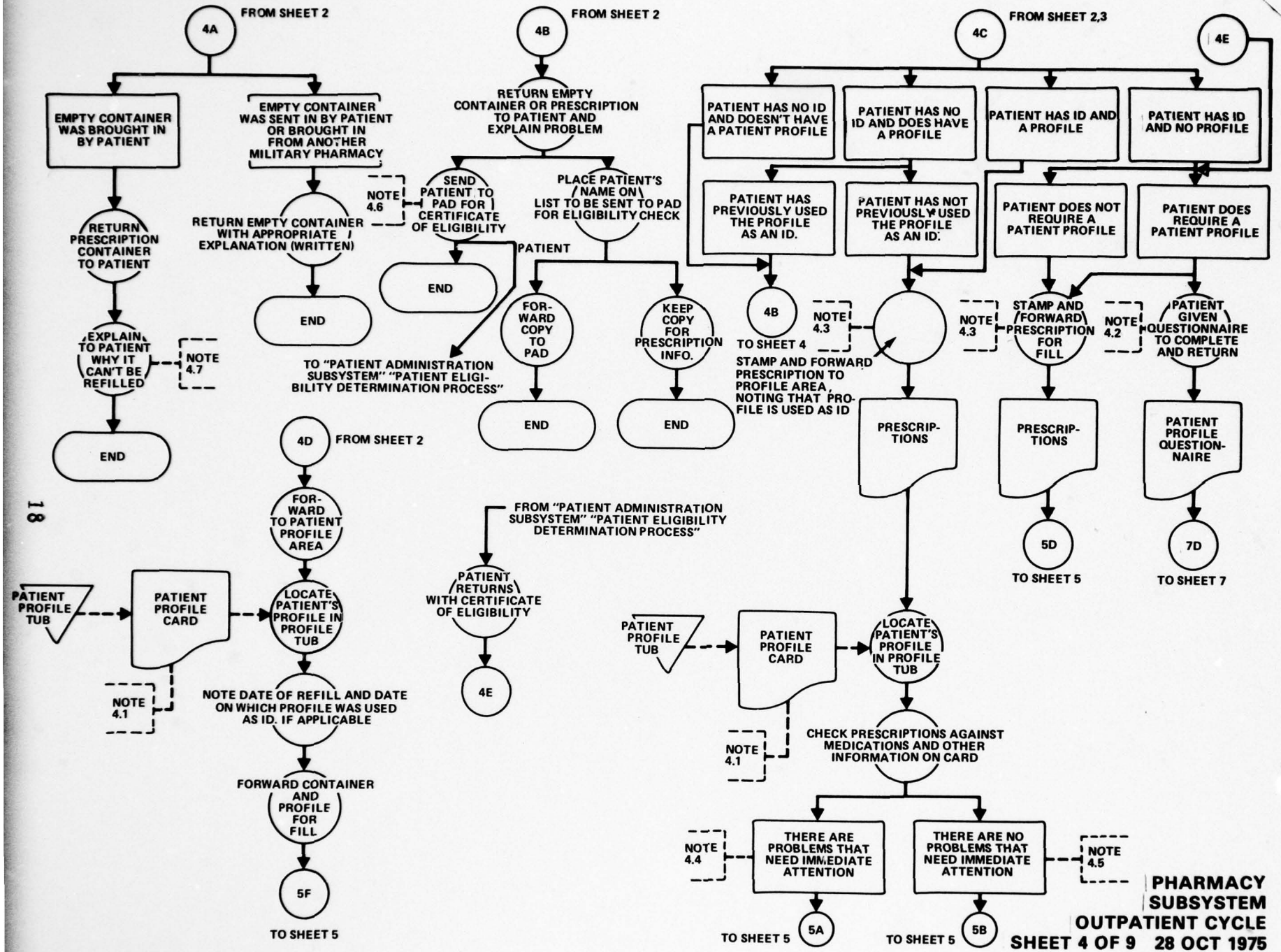
SHEET 3

3.1 Information which requires action by the prescriber is either pertinent to the medication (instructions, strength, or name) or pertinent to the prescriber's signature block (the required signature, the printed name, rank, corps or BNDD or SSN number) and possible contraindication between prescribed medications and/or other drugs.

3.2 Information that can be routinely obtained from the patient includes patient's name, address, phone number, and, if known, prescriber's name and ward or clinic where the prescription was written.

3.3 If a medication is temporarily out of stock, the prescription is returned to the patient with the explanation that the medication is temporarily out of stock and the date the medication is due in. If the medication is not stocked or even if it is just temporarily out of stock, the patient will be informed that he/she can obtain the medication in a civilian pharmacy (at his/her own expense) or at some other military pharmacy (WRAMC will maintain area hospital formulary file copies to facilitate determination of other military pharmacies where the drug(s) may be stocked).

3.4 Selected non-formulary items can be special ordered for a single patient if the prescriber and the department chief feel this specific medication is required (TAB will routinely review all such actions).


4A
FROM SHEET 2
EMPTY CONTAINER WAS BROUGHT IN BY PATIENT
EMPTY CONTAINER WAS SENT IN BY PATIENT OR BROUGHT IN FROM ANOTHER MILITARY PHARMACY
RETURN PRESCRIPTION CONTAINER TO PATIENT
RETURN EMPTY CONTAINER WITH APPROPRIATE EXPLANATION (WRITTEN)
EXPLAIN TO PATIENT WHY IT CAN'T BE REFILLED
NOTE 4.7
END
END
4B
FROM SHEET 2
RETURN EMPTY CONTAINER OR PRESCRIPTION TO PATIENT AND EXPLAIN PROBLEM
SEND PATIENT TO PAD FOR CERTIFICATE OF ELIGIBILITY
NOTE 4.6
PLACE PATIENT'S NAME ON LIST TO BE SENT TO PAD FOR ELIGIBILITY CHECK
END
PATIENT
TO "PATIENT ADMINISTRATION SUBSYSTEM" "PATIENT ELIGIBILITY DETERMINATION PROCESS"
FOR-WARD COPY TO PAD
KEEP COPY FOR PRESCRIPTION INFO.
END
END
4C
FROM SHEET 2,3
4E
PATIENT HAS NO ID AND DOESN'T HAVE A PATIENT PROFILE
PATIENT HAS NO ID AND DOES HAVE A PROFILE
PATIENT HAS ID AND A PROFILE
PATIENT HAS ID AND NO PROFILE
PATIENT HAS PREVIOUSLY USED THE PROFILE AS AN ID.
PATIENT HAS NOT PREVIOUSLY USED THE PROFILE AS AN ID.
PATIENT DOES NOT REQUIRE A PATIENT PROFILE
PATIENT DOES REQUIRE A PATIENT PROFILE
4B
TO SHEET 4
NOTE 4.3
STAMP AND FORWARD PRESCRIPTION TO PROFILE AREA, NOTING THAT PROFILE IS USED AS ID
NOTE 4.3
STAMP AND FORWARD PRESCRIPTION FOR FILL
NOTE 4.2
PATIENT GIVEN QUESTIONNAIRE TO COMPLETE AND RETURN
PRESCRIP-TIONS
PRESCRIP-TIONS
PATIENT PROFILE QUESTION-NAIRE
5D
TO SHEET 5
7D
TO SHEET 7
4D
FROM SHEET 2
FOR-WARD TO PATIENT PROFILE AREA
PATIENT PROFILE TUB
PATIENT PROFILE CARD
LOCATE PATIENT'S PROFILE IN PROFILE TUB
NOTE 4.1
NOTE DATE OF REFILL AND DATE ON WHICH PROFILE WAS USED AS ID. IF APPLICABLE
FORWARD CONTAINER AND PROFILE FOR FILL
5F
TO SHEET 5
FROM "PATIENT ADMINISTRATION SUBSYSTEM" "PATIENT ELIGIBILITY DETERMINATION PROCESS"
PATIENT RETURNS WITH CERTIFICATE OF ELIGIBILITY
4E
PATIENT PROFILE TUB
PATIENT PROFILE CARD
LOCATE PATIENT'S PROFILE IN PROFILE TUB
NOTE 4.1
CHECK PRESCRIPTIONS AGAINST MEDICATIONS AND OTHER INFORMATION ON CARD
NOTE 4.4
THERE ARE PROBLEMS THAT NEED IMMEDIATE ATTENTION
THERE ARE NO PROBLEMS THAT NEED IMMEDIATE ATTENTION
NOTE 4.5
TO SHEET 5
5A
TO SHEET 5
5B
PHARMACY SUBSYSTEM
OUTPATIENT CYCLE
SHEET 4 OF 9 28 OCT 1975

NOTES ON OUTPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 4

4.1 The data elements on the patient profile card are: patient's name, address, phone number, social security number, ID card number, sponsor's social security number, sponsor's ID card number, patient's age, weight, sex, race, family members (names), patient's sensitivities/allergies, medications routinely used, all doctors routinely seen, and any special medical problems. This information is gathered initially from the Patient Profile Questionnaire given to the patient when it is first decided to keep a profile on the patient. It is routinely updated during any following visits. After duty hours, the Patient Profiles (in a "tub" file) are taken up to the 4th floor pharmacy and returned to the outpatient pharmacy the next duty morning. The patients selected for patient profiles are chronic care, problem-user, or prescriber selected patients.

4.2 The patient may either turn in the completed questionnaire when picking up medications (encouraged), send it in (self-addressed, postage paid envelope provided) or bring it in at a later time.

4.3 The prescription is stamped with a numbering machine (e.g., Bates) when it has been determined it will be filled. If the prescription is for a controlled medication, it will be stamped at a later time with a specific Schedule II or Schedule III-V numbering machine (Bates machines with different number sequences).

NOTES ON OUTPATIENT PHARMACY CYCLE FLOW CHARTS

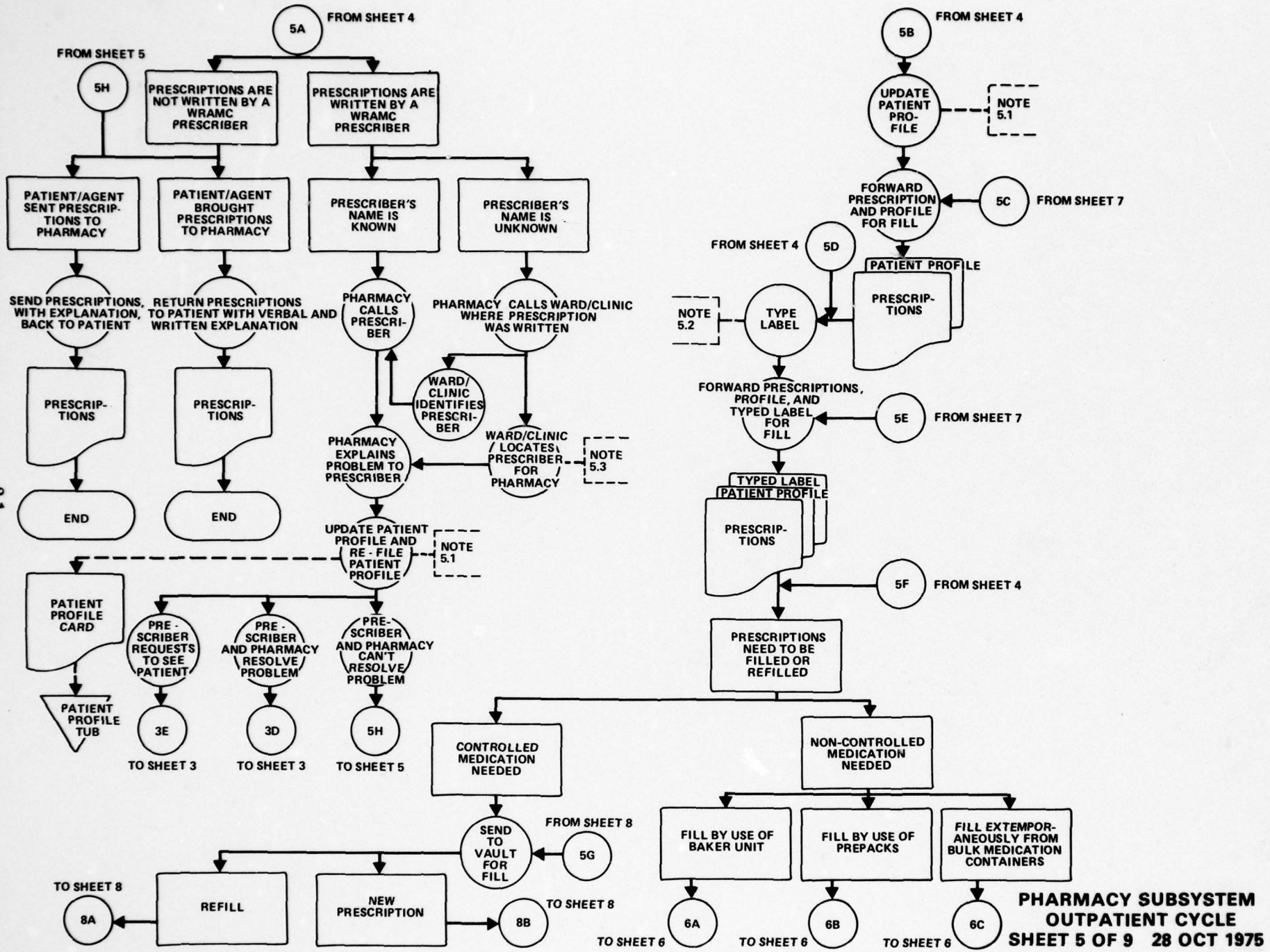
SHEET 4

4.4 These problems would be (1) duplicate medications (both exact or pharmacologic category), (2) major contraindications, or (3) possible enzyme/metabolic problems.

4.5 These are problems which can be resolved by instructing the patient to take contraindicated medications a certain period of time apart to eliminate the problem. This instruction takes place by counselling the patient at the pharmacy when he/she picks up his/her medication.

4.6 The patient is requested to obtain a certificate of medical care eligibility from the Patient Administration Office (PAD). The patient may or may not return to the pharmacy. In the case where the patient does not return, the encounter is ended. In either case the patient may proceed through a PAD medical care eligibility process.

4.7 The patient is advised that the refill cannot be accomplished because: (1) the refill has been brought in too soon, (2) a refill is requested on a prescription that is over 6 months old, or (3) there are no refills left. Further, the patient is advised that if the medication need still exists, then prescription should be renewed by a visit to the prescriber.



PHARMACY SUBSYSTEM OUTPATIENT CYCLE SHEET 5 OF 9 28 OCT 1975

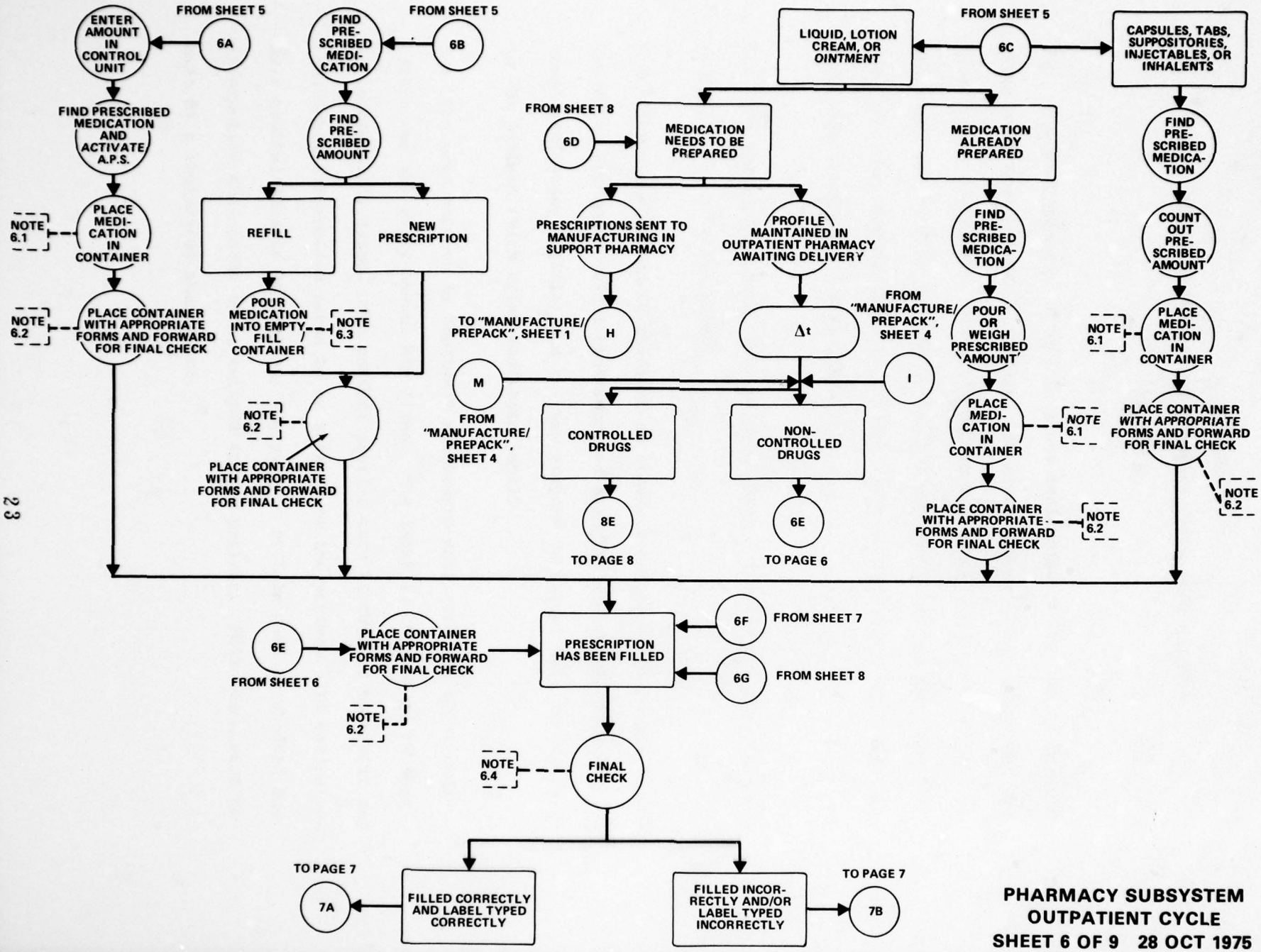
NOTES ON OUTPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 5

5.1 If there are no problems, the new medication(s) prescribed are added to the profile along with the date and number of refills authorized. If there are problems, the new medication(s) prescribed are added to the profile with a notation of the problem, how handled (contacted prescriber, etc.), and resolution of problem (instructed patient, new prescription, etc.).

5.2 The data elements on a label are patient's name, address (if necessary), date label originally typed, dosage instructions, medication name, strength, amount to be dispensed, number of refills (1 for one, 1-2 for two, 1-2-3 for three, etc.), prescriber's name and dispensor's initials.

5.3 If prescriber is not readily identifiable, pharmacy personnel will make every attempt to locate and/or identify him/her. If, however, he/she can not be identified, the prescription will not be filled and the patient will be asked to return to the clinic to see another care provider.



PHARMACY SUBSYSTEM
OUTPATIENT CYCLE
SHEET 6 OF 9 28 OCT 1975

NOTES ON OUTPATIENT PHARMACY CYCLE FLOW CHARTS

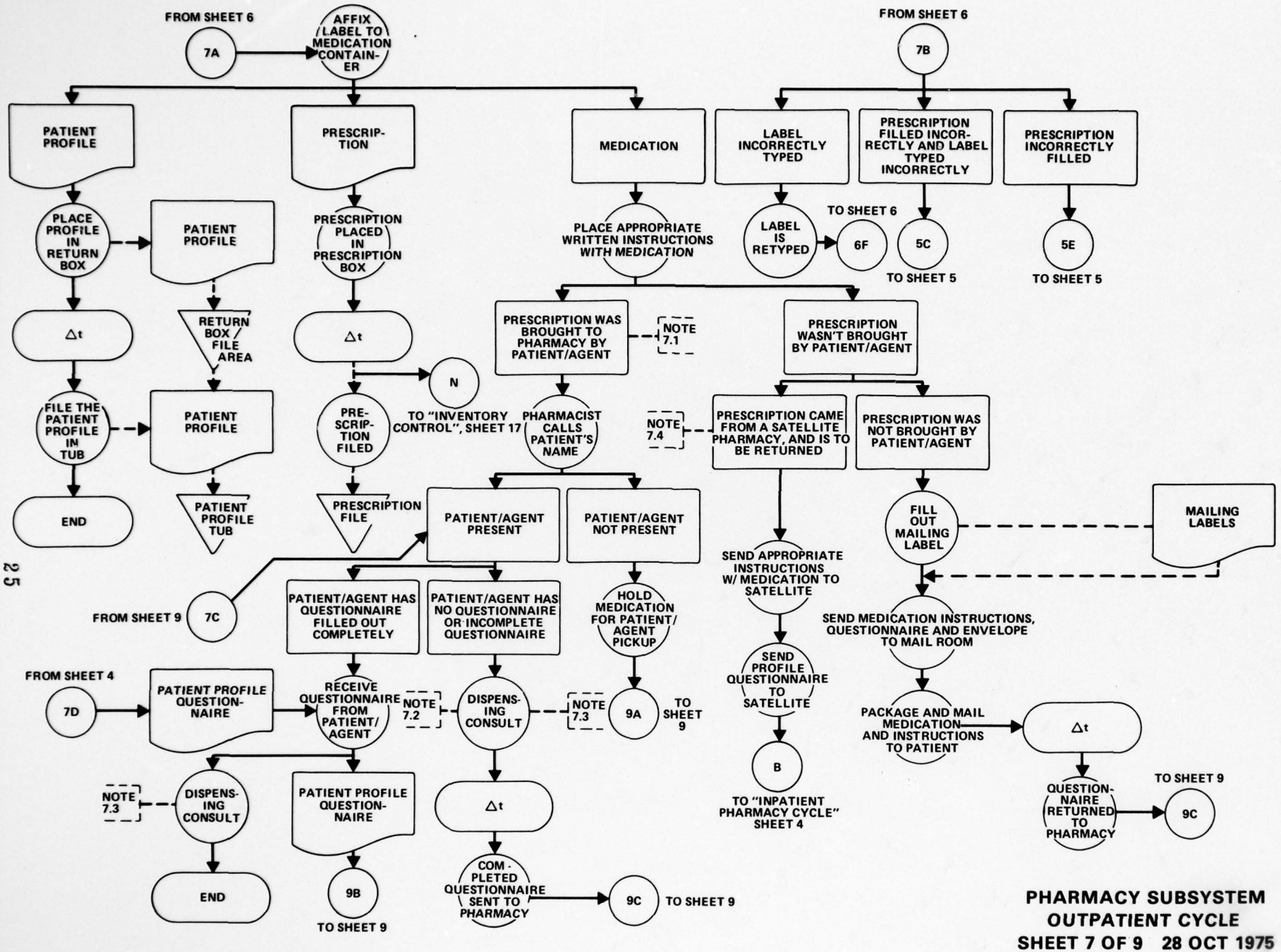
SHEET 6

6.1 If prescription is a refill, place medication in the returned empty glass container and add a new cap. If a new prescription, place medication in new container. The Child Safety Packaging Act requires a new container for refills if plastic bottles are used. If the container appears to be contaminated, it will be replaced with a new container (requires a new label to be typed).

6.2 The appropriate forms are the prescription form and/or the patient profile card, as applicable.

6.3 If the medication is a liquid or cream, the medication is not transferred to the empty refill container and both the old empty container (has label indicating refills) and the new prepack container will be dispensed to the patient (with brief duplicate label).

6.4 The prescription is routinely checked to make sure the right medication and the right amount are given. The label is checked to be sure it is correctly typed. The patient profile card is checked to see if any additional information needs to be relayed to the patient. If medication is a contraindicated medication, the patient profile card is checked for information that needs to be relayed to the patient. This check must be made by a registered pharmacist.



PHARMACY SUBSYSTEM
OUTPATIENT CYCLE
SHEET 7 OF 9 28 OCT 1975

NOTES ON OUTPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 7

7.1 This includes prescriptions sent from satellite pharmacies which are to be held at the outpatient pharmacy for patient pickup.

7.2 If the patient has an uncompleted questionnaire and cannot wait to finish it, the pharmacist gives the patient a postage paid, self-addressed envelope and instructs the patient to mail the questionnaire in when he/she does complete it.

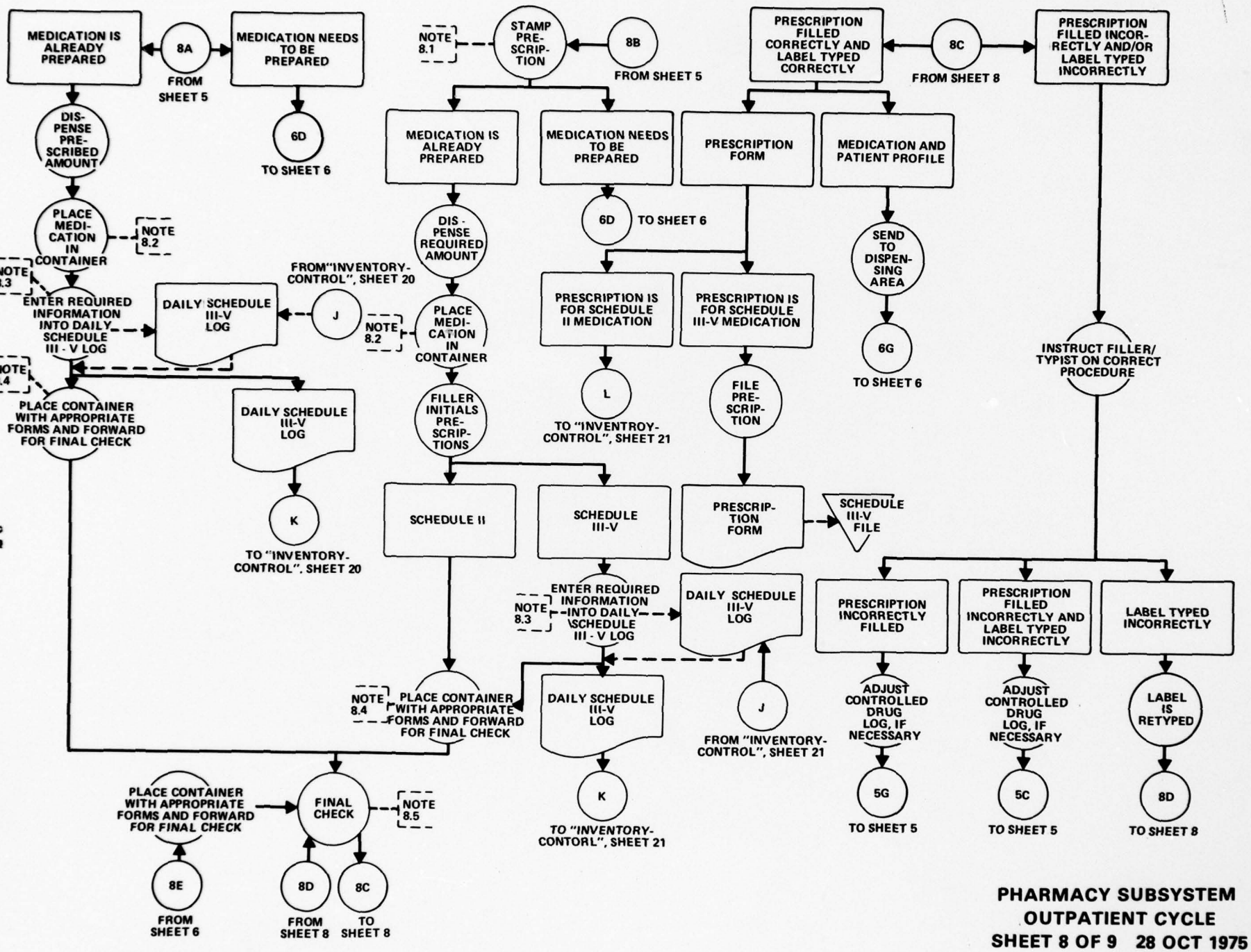
7.3 Patient is given medications with complete written instructions. He/she will also be given verbal instructions, and will be questioned as to whether or not he/she fully understands them. If the patient is not fluent in the English language, special arrangements will be made to assure that he/she understands the instructions.

7.4 Discharged Patients and Patients on a pass will have their prescriptions sent down to the outpatient pharmacy from one of the satellites (such prescriptions can be filled and returned to the satellite to be dispensed on the ward or the patient can pick up medications at the outpatient pharmacy when leaving WRAMC).

AD-A045 458 ARMY TRIMIS AGENCY WASHINGTON D C F/G 6/5
HEALTH CARE INFORMATION. PROCESS CONDITION-ACTION DIAGRAM FLOWC--ETC(U)
JAN 77 K SCHANK, F BOCK
UNCLASSIFIED TRIMIS-ARMY-TR-1 NL

7 OF 10
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PHARMACY SUBSYSTEM
OUTPATIENT CYCLE
SHEET 8 OF 9 28 OCT 1975

NOTES ON OUTPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 8

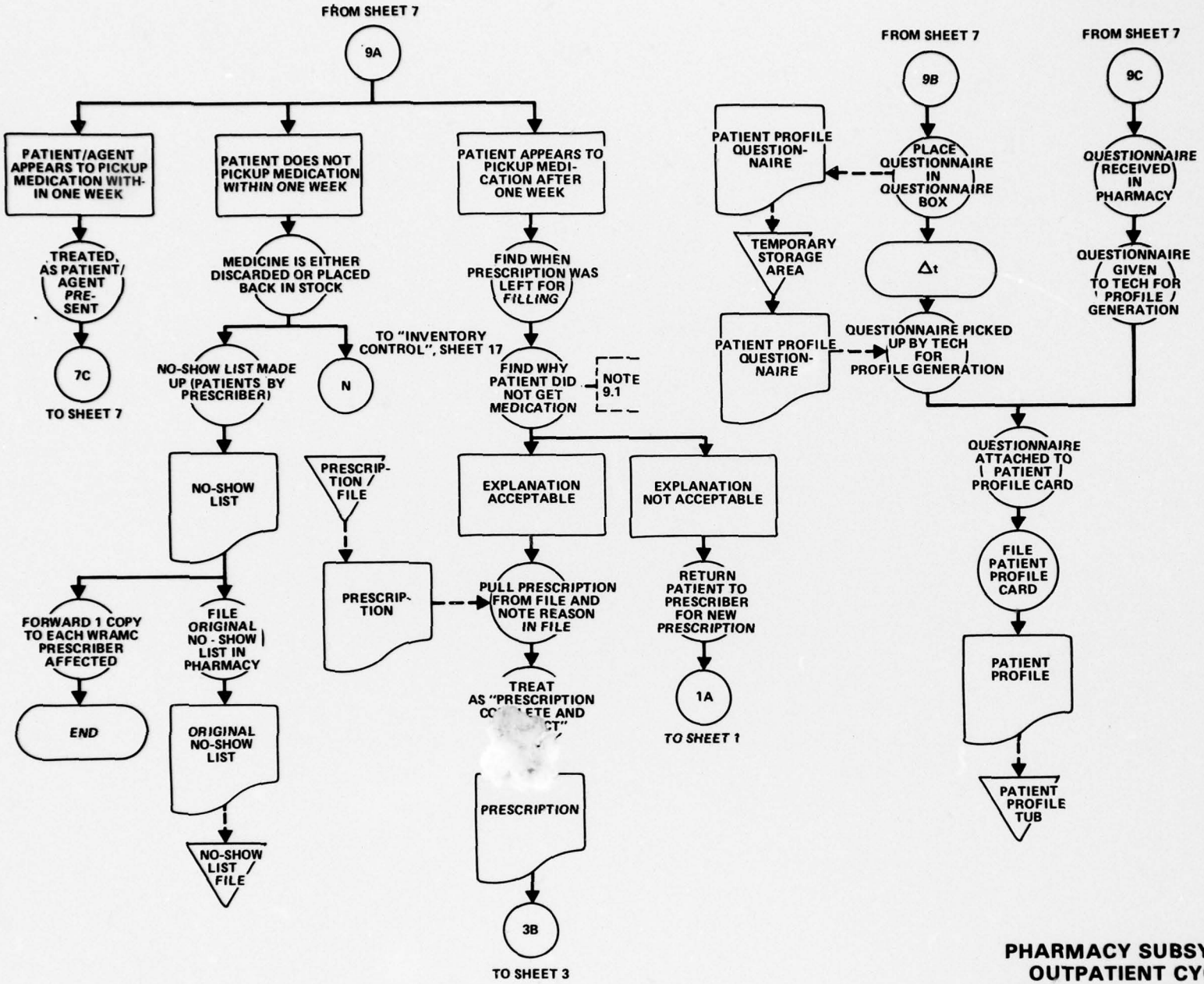
8.1 There are two numbering machines in the vault: one for Schedule II and one for Schedule III-V medications. Besides adding the prescription number, sequenced by the machine, a date stamp is also used to annotate the date the prescription was filled.

8.2 If the prescription is a refill, place the medication in the returned empty glass container and add a new cap. If a new prescription, place the medication in an unused container.

8.3 The data elements listed in the log are prescription/voucher number, name & strength of medication, amount dispensed, and date. This log is totaled by individual medication at either the beginning or ending of each work day for posting to controlled medication logs.

8.4 The appropriate forms are the prescription form and/or the patient profile card, as applicable.

8.5 The prescription is checked to make sure the right medication and the right amount are given. The label is checked to be sure it is correctly typed. The patient profile is checked to see if any additional information needs to be relayed to the patient. This check is made by a registered Pharmacist.

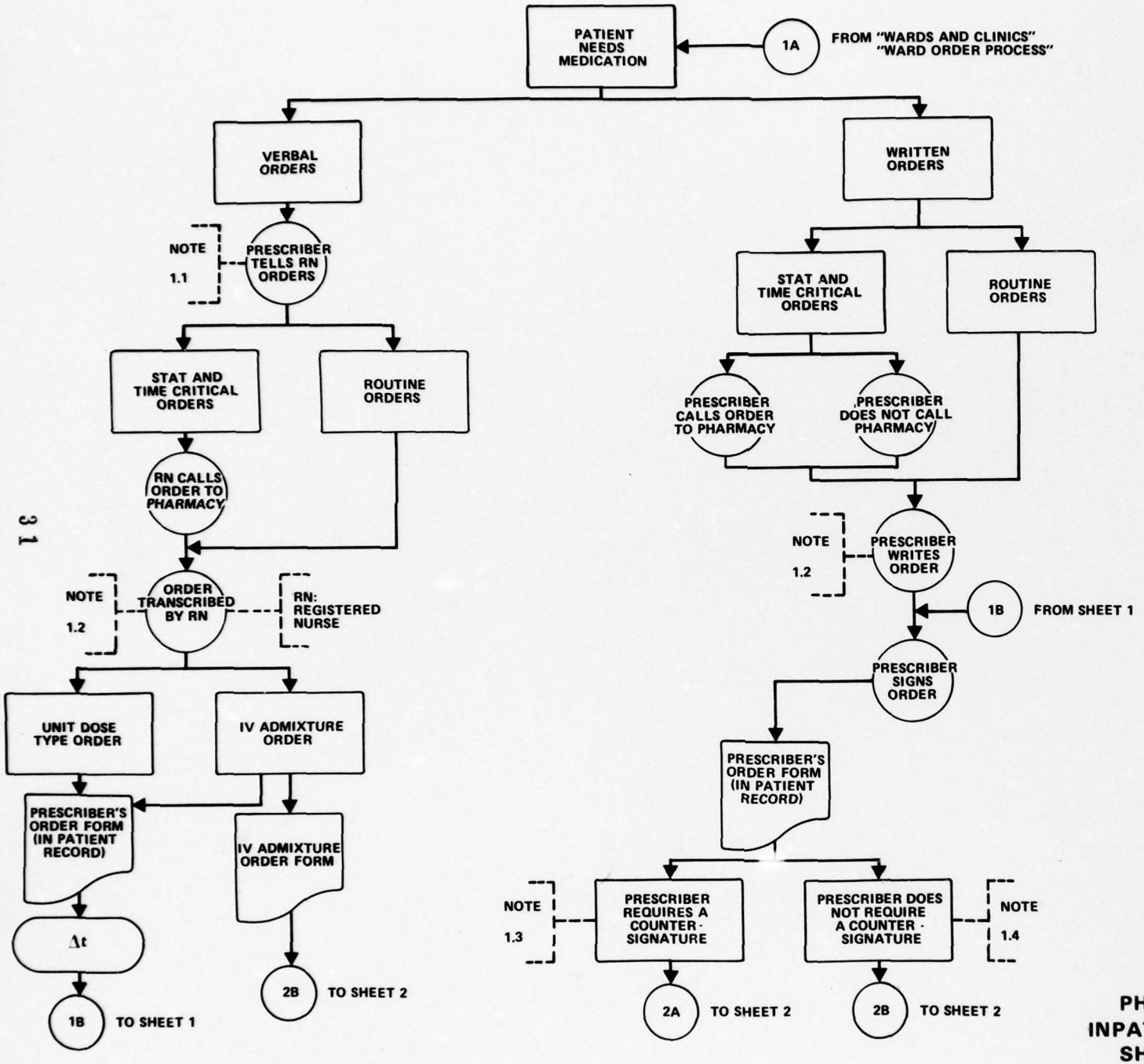


PHARMACY SUBSYSTEM
OUTPATIENT CYCLE
SHEET 9 OF 9 28 OCT 1975

NOTES ON OUTPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 9

9.1 In order to determine if the explanation is acceptable, the patient's age, the situation, the medication, and the contents of the patient profile (if applicable) are considered.



PHARMACY SUBSYSTEM
INPATIENT PHARMACY CYCLE
SHEET 1 OF 11 28 OCT 75

NOTES ON INPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 1

1.1 It may be possible for the prescriber to consign the ordering to the commo clerk. If this happens, the actions remain the same as if the order is consigned to the nurse (used only with commo clerks who have demonstrated they can routinely address this capability).

1.2 The orders are written on a three-part no carbon required (NCR) form. The data elements required to be on this form are: patient's name, ward, bed number, medication name(s) and strength(s), date of order, dosage form, dosage instructions (including time of administration), prescriber's signature, and transcriber's signature (if applicable). This form is a multiple item form (it can be used for more than one medication order). The orders are routinely written in the patient's record. If the order is for an IV-Admixture solution, another form is also filled out by the registered nurse or commo clerk and the three-part (NCR) form is used to validate the IV-Admixture order. The data elements on this form are: patient's name, ward, bed number, prescriber's name, transcriber's name, time solutions are due, vehicle & amount, additive name(s) and strength(s) or amount(s). This is a single item order and only one vehicle and required additive(s) are written per order form (but can be for multiple bottles, e.g., every 8 hours).

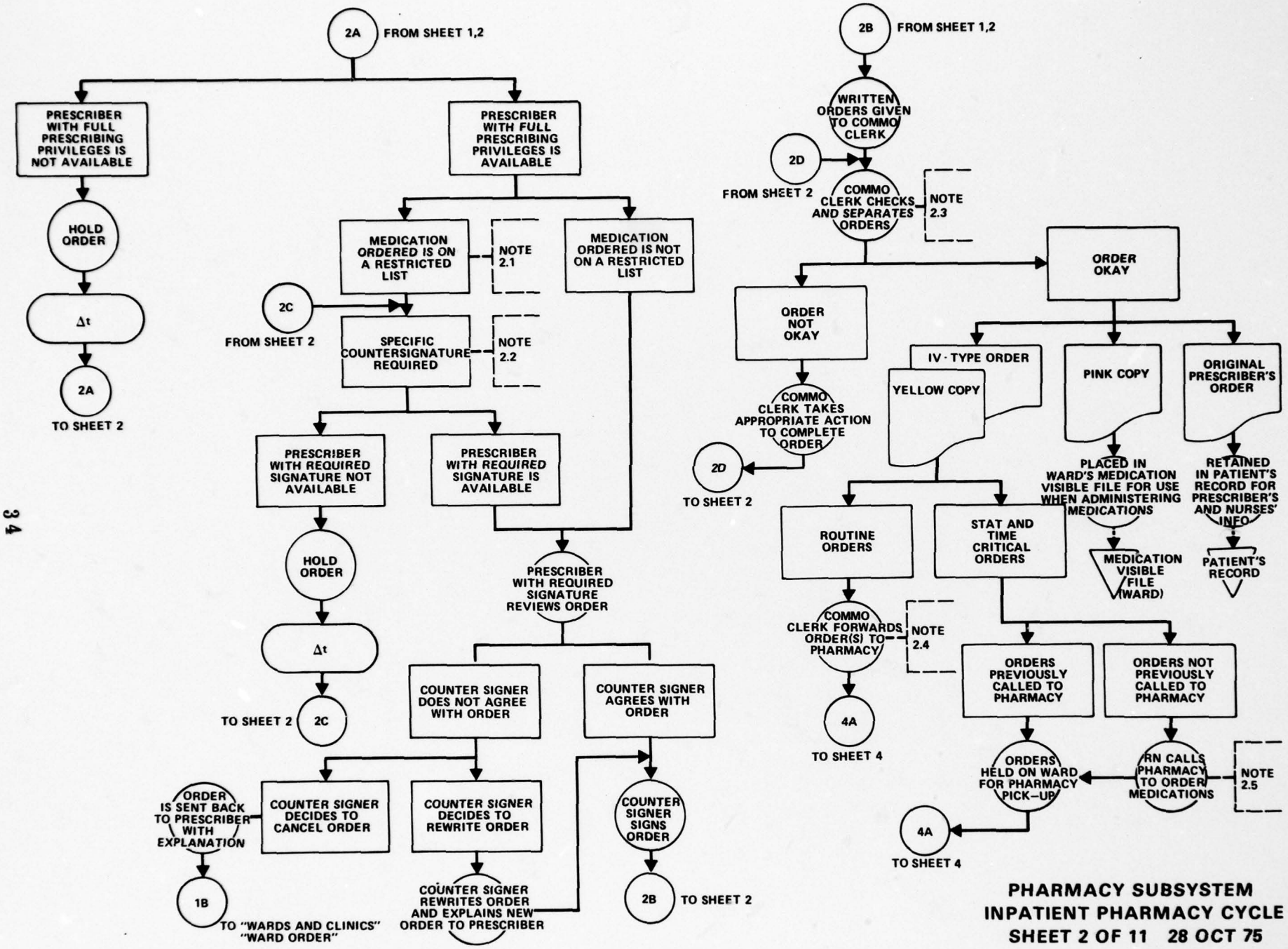
1.3 This prescriber is an individual who can prescribe any medications, which are not on a restricted use list. This individual would be an

NOTES ON INPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 1 (CONTINUED)

Amosist, a nurse clinician/practitioner, physician's assistant, etc. Each prescriber of this type has a predetermined list of medications he/she can prescribe without needing a doctor's countersignature. These lists are periodically reviewed and updated by the Therapeutic Agents Board (Pharmacy and Therapeutics Committee for Navy and Air Force). In certain cases a prescriber with full prescribing privileges can be considered a prescriber requiring a countersignature (i.e., he/she writes for a restricted medication).

1.4 This is a prescriber who can prescribe any medications (including controlled medications but excluding restricted medications) without the approval of any other prescriber. In certain cases a prescriber requiring a countersignature can be considered a prescriber with full prescribing privileges (i.e., the prescriber writes for a medication on his/her list).


2A
FROM SHEET 1,2
PRESCRIBER WITH FULL PRESCRIBING PRIVILEGES IS NOT AVAILABLE
HOLD ORDER
Δt
2A
TO SHEET 2
PRESCRIBER WITH FULL PRESCRIBING PRIVILEGES IS AVAILABLE
MEDICATION ORDERED IS ON A RESTRICTED LIST
NOTE 2.1
MEDICATION ORDERED IS NOT ON A RESTRICTED LIST
2C
FROM SHEET 2
SPECIFIC COUNTERSIGNATURE REQUIRED
NOTE 2.2
PRESCRIBER WITH REQUIRED SIGNATURE NOT AVAILABLE
PRESCRIBER WITH REQUIRED SIGNATURE IS AVAILABLE
HOLD ORDER
Δt
TO SHEET 2
2C
PRESCRIBER WITH REQUIRED SIGNATURE REVIEWS ORDER
COUNTER SIGNER DOES NOT AGREE WITH ORDER
COUNTER SIGNER AGREES WITH ORDER
ORDER IS SENT BACK TO PRESCRIBER WITH EXPLANATION
COUNTER SIGNER DECIDES TO CANCEL ORDER
COUNTER SIGNER DECIDES TO REWRITE ORDER
COUNTER SIGNER SIGNS ORDER
1B
TO "WARDS AND CLINICS" "WARD ORDER"
COUNTER SIGNER REWRITES ORDER AND EXPLAINS NEW ORDER TO PRESCRIBER
2B
TO SHEET 2
2B
FROM SHEET 1,2
WRITTEN ORDERS GIVEN TO COMMO CLERK
2D
FROM SHEET 2
COMMO CLERK CHECKS AND SEPARATES ORDERS
NOTE 2.3
ORDER OKAY
ORDER NOT OKAY
COMMO CLERK TAKES APPROPRIATE ACTION TO COMPLETE ORDER
2D
TO SHEET 2
IV - TYPE ORDER
YELLOW COPY
PINK COPY
ORIGINAL PRESCRIBER'S ORDER
PLACED IN WARD'S MEDICATION VISIBLE FILE FOR USE WHEN ADMINISTERING MEDICATIONS
RETAINED IN PATIENT'S RECORD FOR PRESCRIBER'S AND NURSES' INFO
MEDICATION VISIBLE FILE (WARD)
PATIENT'S RECORD
ROUTINE ORDERS
STAT AND TIME CRITICAL ORDERS
COMMO CLERK FORWARDS ORDER(S) TO PHARMACY
NOTE 2.4
4A
TO SHEET 4
ORDERS PREVIOUSLY CALLED TO PHARMACY
ORDERS NOT PREVIOUSLY CALLED TO PHARMACY
ORDERS HELD ON WARD FOR PHARMACY PICK-UP
RN CALLS PHARMACY TO ORDER MEDICATIONS
NOTE 2.5
4A
TO SHEET 4
PHARMACY SUBSYSTEM
INPATIENT PHARMACY CYCLE
SHEET 2 OF 11 28 OCT 75

NOTES ON INPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 2

2.1 Restricted medications are either limited to a specific service or doctor, or require the signature of the chief of the prescribing doctor's service or another authorized professional person. An example of the first case is an investigational medication (restricted by doctor) or dermatology medication (restricted to Dermatology Service). An example of the second case would be certain antibiotics (e.g., carbenicillin), albumin, or parenteral hyperalimentation formulations.

2.2 The countersignature is required when the medication is designated to require a countersignature by the Therapeutic Agents Board (TAB) and the hospital commander or by the hospital commander alone. The types of countersignatures are Chief of Service, doctor of a specific service, or a specific doctor.

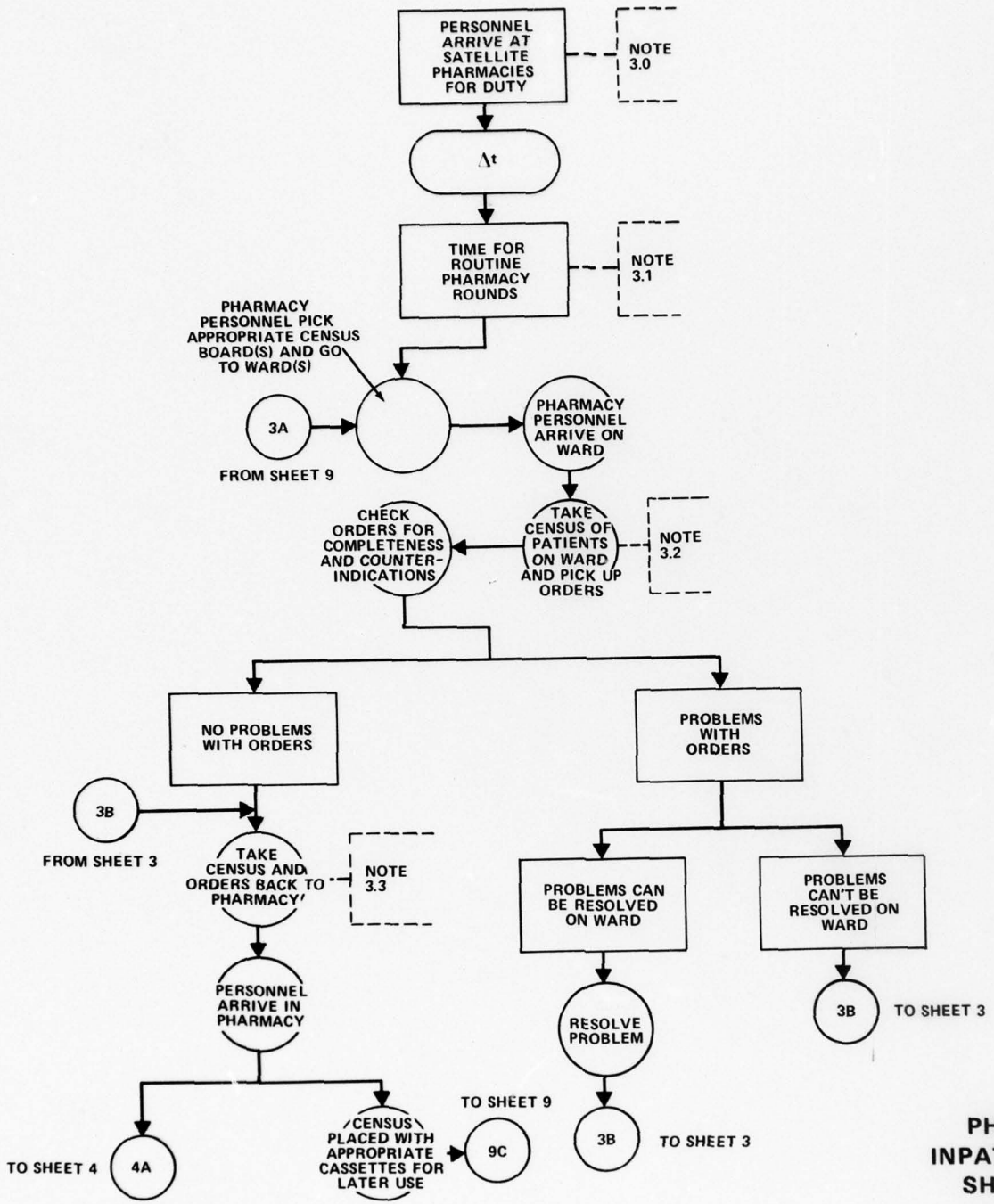
2.3. The commo clerk checks to see that the order(s) is complete (name, date and location). The commo clerk also separates the copies, retaining the original in the patient's record, possibly placing the pink copy in the ward's Medication Visible File, and forwarding the yellow copy to the pharmacy.

2.4 The order(s) can be forwarded in three ways: (1) placed in the Telelift, (2) hand carried by messenger, (3) picked up by pharmacy personnel during normal rounds and/or when delivering Stat and Time Critical medications.

NOTES ON INPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 2 (CONTINUED)

2.5 This may be accomplished by a commo clerk only when this individual has demonstrated competence for this activity.



PHARMACY SUBSYSTEM
INPATIENT PHARMACY CYCLE
SHEET 3 OF 11 28 OCT 75

NOTES ON INPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 3

3.0 At the beginning of each working day, the 4th floor pharmacy will return to the 5th, 6th, and 7th floor pharmacies the sterile product suspense "hourly" files and the Visible Patient Medication files (these files are returned with all original orders plus any new orders). At the end of each working day the 5th, 6th, & 7th floor pharmacies will send their sterile products "hourly" file and Visible files to the 4th floor (which will handle all patient orders during the night).

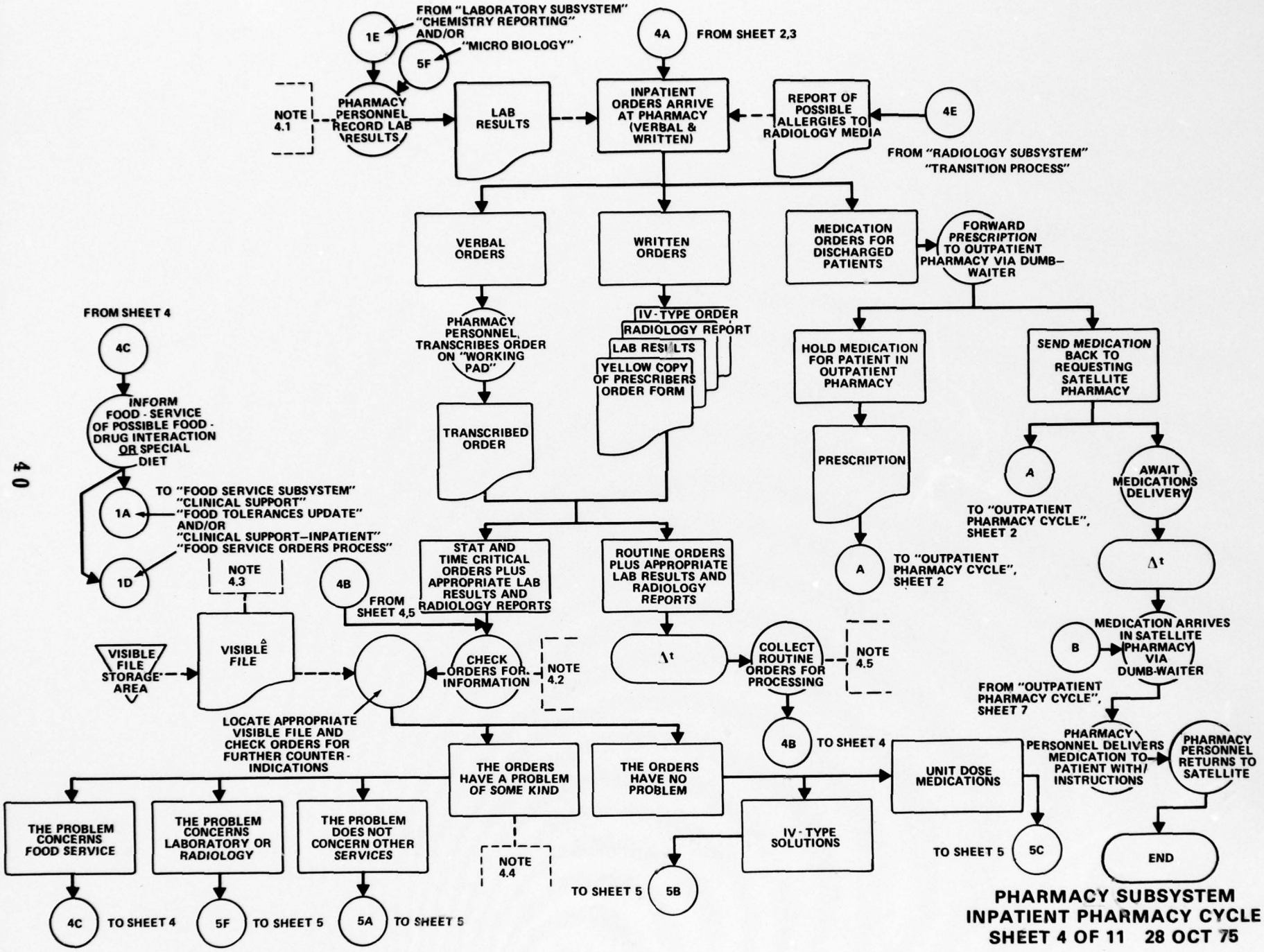
3.1 Every day the satellite pharmacy personnel will make periodic rounds of the wards on their floor to check for catch-up orders required and current patient locations. After the satellite pharmacies on the 5th, 6th, & 7th floors close for the night, the 4th floor pharmacy will provide services to all wards in the hospital.

3.2 In taking the census (patient location), pharmacy personnel check to see who is still on the ward, what bed they are in, who has been discharged, who is on leave, who will be discharged before next scheduled unit dose cassette delivery, and who will be placed on leave before the next scheduled unit dose delivery. If a new patient has arrived on the ward (admission or transfer), cassette drawer labels will be prepared for that patient. The elements on the label will be patient's name, bed number and all allergies (if any).

NOTES ON INPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 3 (CONTINUED)

3.3 On the way back to the pharmacy an initial sorting of the orders takes place. Normally this sort will separate orders by ward, and also separate Stat and Time Critical orders from routine orders. Separation of problem orders from non-problem orders may occur. In addition, as established per Standing Operating Procedure (SOP), orders requiring specific drug(s) for laboratory and/or radiology tests will be screened and the drug(s) delivered to the wards (secondary orders) as appropriate to support diagnostic procedures.



PHARMACY SUBSYSTEM
INPATIENT PHARMACY CYCLE
SHEET 4 OF 11 28 OCT 75

NOTES ON INPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 4

4.1 The results/reports the pharmacy is interested in are BUN, Creatinine, antibiotic C/S, PTT, etc.

4.2 The information checked (if a prescriber's order form) is patient's name, ward, bed number, medication name & strength, dosage instructions (including time), prescriber's signature, transcriber's signature, countersignatures as required, and contraindications between items on this order form. If an IV-Admixture order, check for patient's name, ward, prescriber's and transcriber's names, time(s) due, vehicle, amount of vehicle, additive(s) with strengths and amounts and possible contrainidications between items on this order form. Also check to see if medication is stocked in the pharmacy system.

4.3 There is a separate patient medication Visible File maintained by the Pharmacy for each ward. Each file has a separate section for each bed on the ward and each section contains all current orders written for the patient in that specific bed, plus appropriate Lab and Radiology reports.

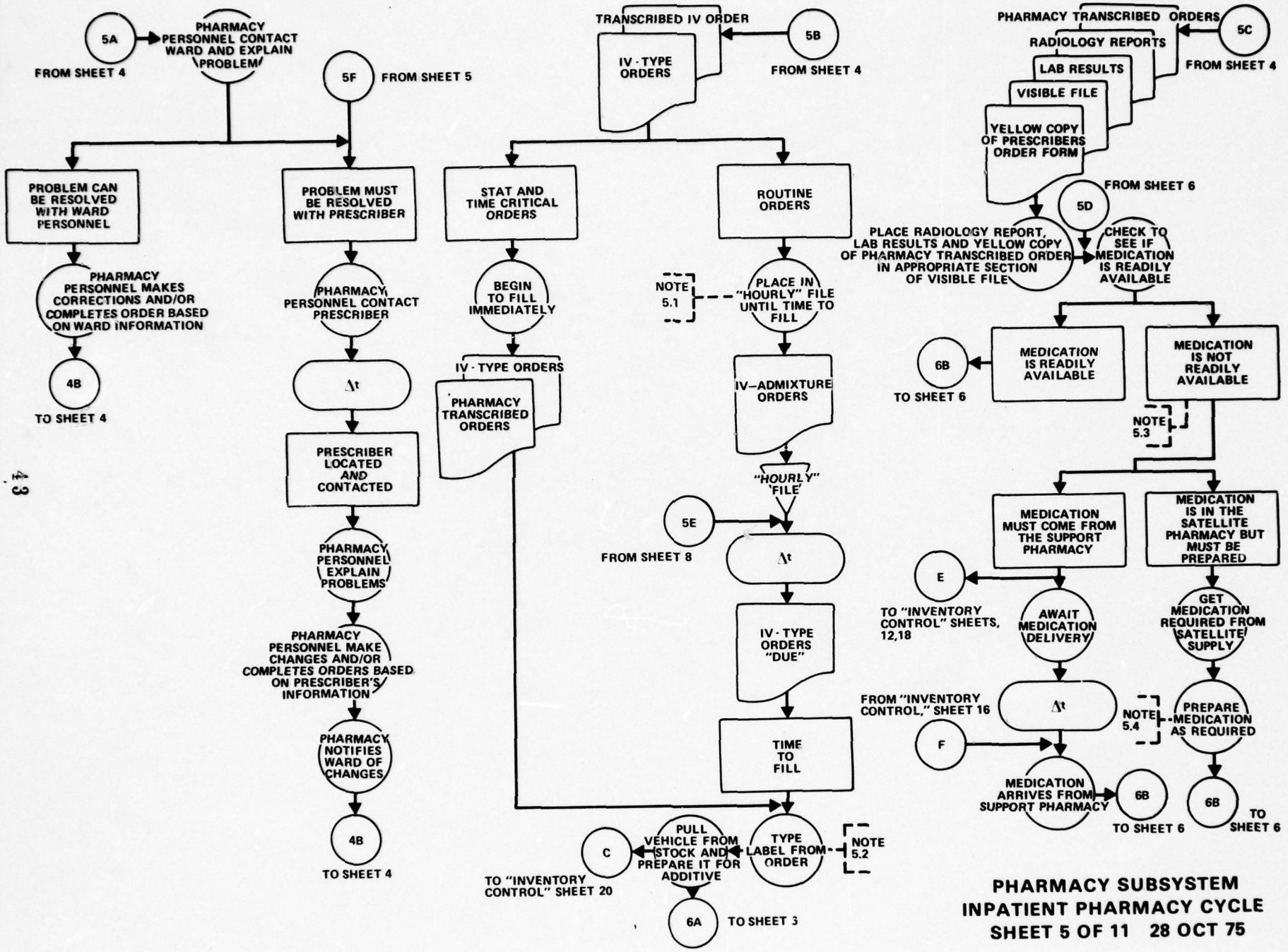
4.4 The types of problems possible are: no name or wrong patient's name, no bed number or wrong bed number, no ward or wrong ward, no date (these are handled by contacting the commo clerk on the ward); or medication/dosage form/instruction either: (1) are not on the order, (2) the information is not consistent (handled/resolved normally with clerk or throught prescriber), or (3) there are contraindications between medications on the same order or previous orders (resolved with prescriber).

NOTES ON INPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 4 (CONTINUED)

The pharmacy will also inform prescribers, when applicable, that a medication a patient is taking is capable of changing the Lab results significantly; or that radiology has reported that the patient is possibly allergic to Iodine, etc. Pharmacy will also inform prescriber if ordered medication is not stocked in pharmacy system, Lab of problem medications, and Food Service of drugs which have a potential for drug-dietary interaction. Also, Food Service will be notified that intake of the medication by the patient requires special dietary considerations (a specific beverage or food, e.g., orange juice or milk).

4.5 There may or may not be a time delay in the collection of routine orders for processing. All Stat and Time Critical orders are processed first <u>if</u> there are any. If there are none, then routine orders are immediately collected and processed.



PHARMACY SUBSYSTEM
INPATIENT PHARMACY CYCLE
SHEET 5 OF 11 28 OCT 75

NOTES ON INPATIENT PHARMACY CYCLE FLOW CHARTS

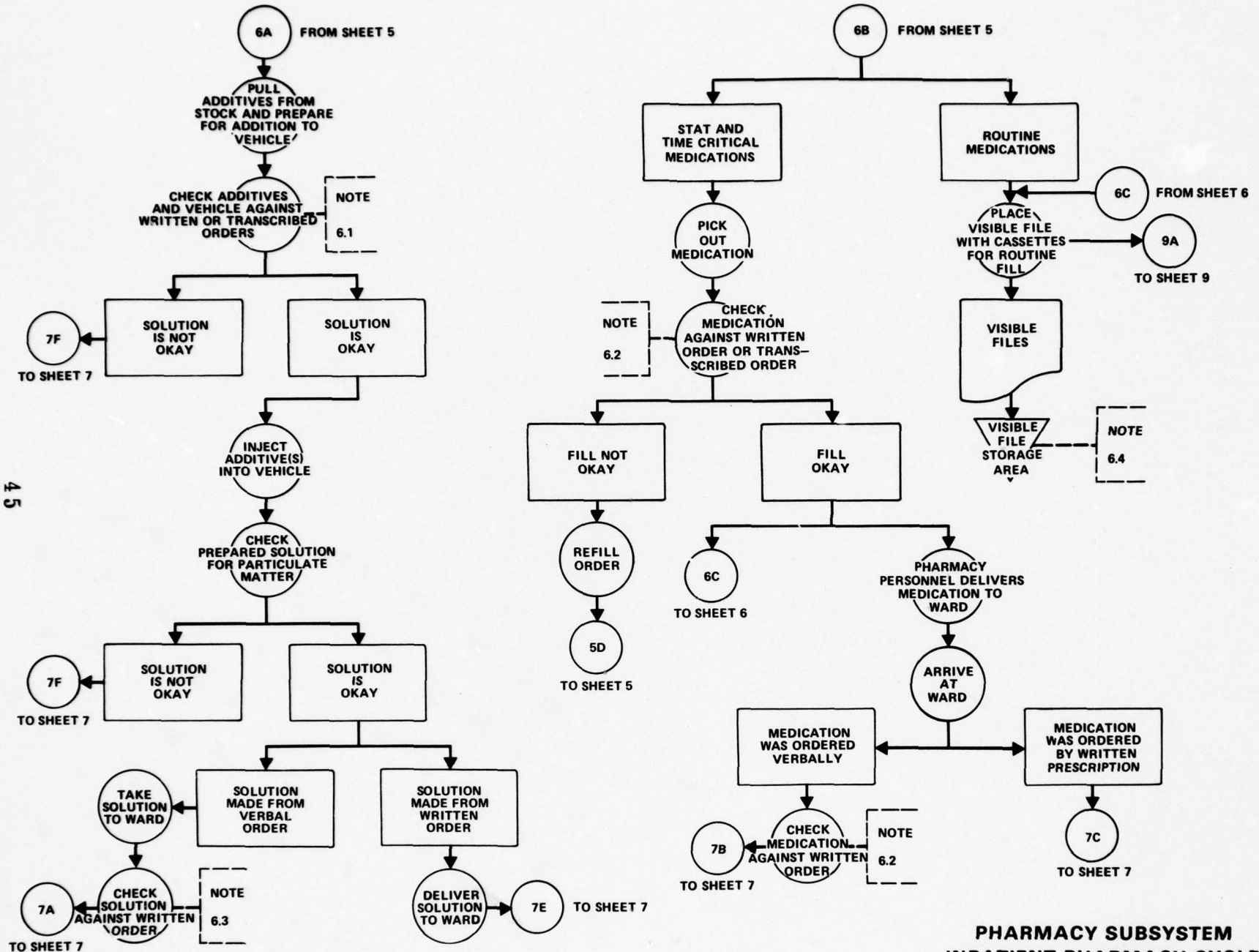
SHEET 5

5.1 The "hourly" file is the suspense file for the sterile products (IV admixtures, etc). It is set up by hour of administration. Each order is placed in a time slot reflecting the appropriate time due. Time to fill will vary from one hour to one-half hour before scheduled administration based on the amount of time required to fill and type of order.

5.2 The data elements included on the label are patient's name, ward, date & time prepared, discard date & time, initials of person preparing solution, vehicle & amount, additive(s) with amount or strength, special instructions, and when a series of bottles is to be administered, the number of the bottle (e.g., first, second, ... etc),

5.3 The reasons for the medication not being readily available are: (1) medication not stocked in satellite pharmacy, (2) satellite temporarily out awaiting re-supply from support pharmacy, (3) medication not available in unit dose packaging (e.g., unusual or short lived injections for unit dose), and (4) medication which must be compounded in either the satellite or the support pharmacy.

5.4 The amount prepared depends on the medication, the patient (adult or child) and the diagnosis. When the order is a Stat or Time Critical order, only enough dosages will be prepared to last until the next cassette delivery. If the order is routine, a certain number of dosages is prepared (i.e., 2-3 days supply).



PHARMACY SUBSYSTEM
INPATIENT PHARMACY CYCLE
SHEET 6 OF 11 28 OCT 75

NOTES ON INPATIENT PHAMACY CYCLE FLOW CHARTS

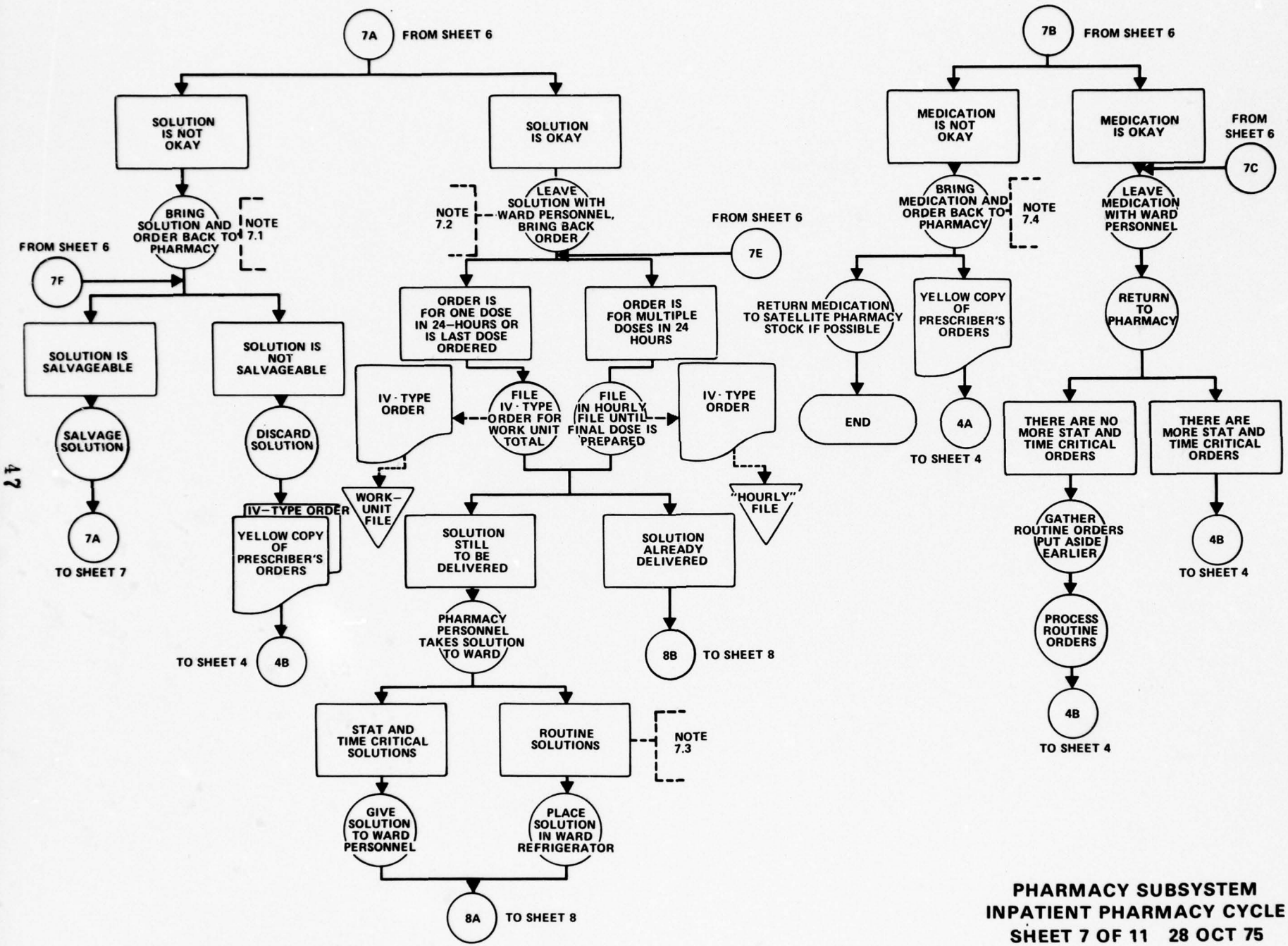
SHEET 6

6.1 The solutions are checked to make sure the correct vehicle and volume of sterile fluid are on hand for the preparation of the order, and that the right additives and amounts of same are on hand for the preparation of the order.

6.2 Check order to make sure the medication, strength, and dosage form corresponds to the order.

6.3 The solutions are checked to make sure the correct vehicle and volume of sterile fluid were used in the preparation and that the right additives and amounts of same are on hand for the preparation.

6.4 The Visible Files are pulled per established procedure when Pharmacy personnel are ready to fill the unit dose cassettes.



PHARMACY SUBSYSTEM
INPATIENT PHARMACY CYCLE
SHEET 7 OF 11 28 OCT 75

NOTES ON INPATIENT PHARMACY CYCLE FLOW CHARTS

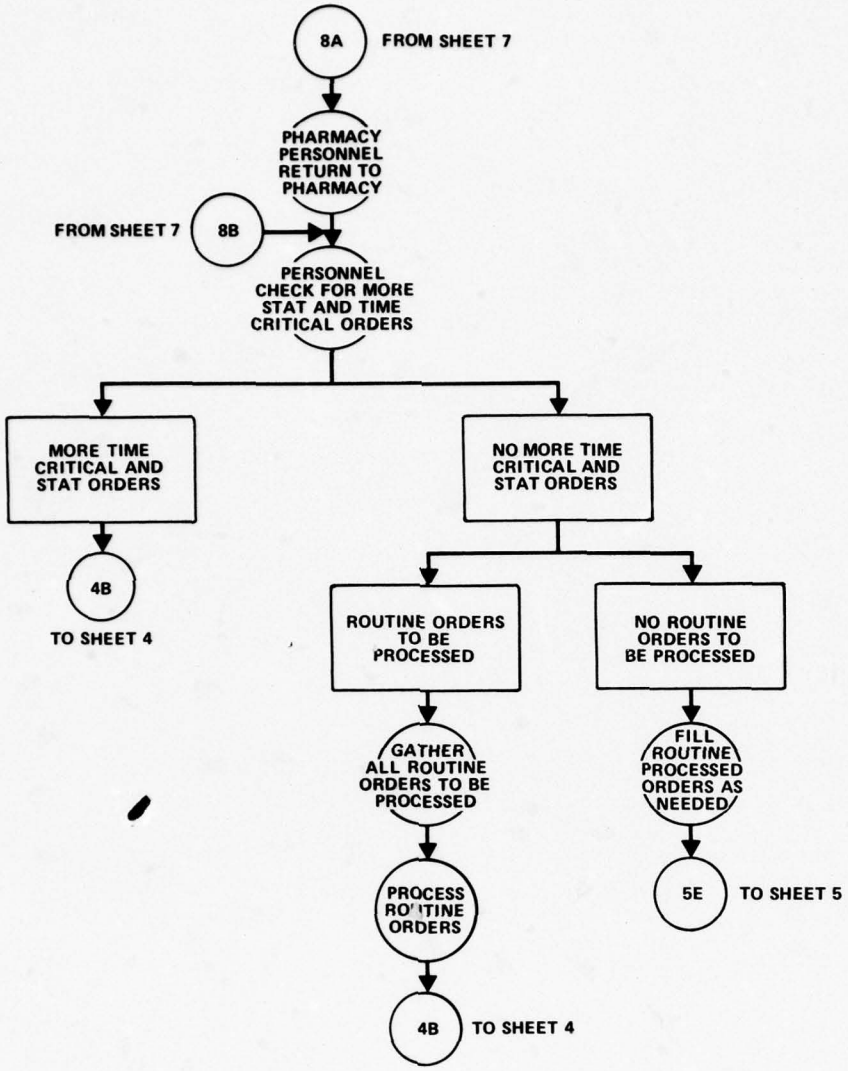
SHEET 7

7.1 Stat orders would be called to pharmacy to allow reformulation to still meet the requirements of the actual written order in a suitable time frame.

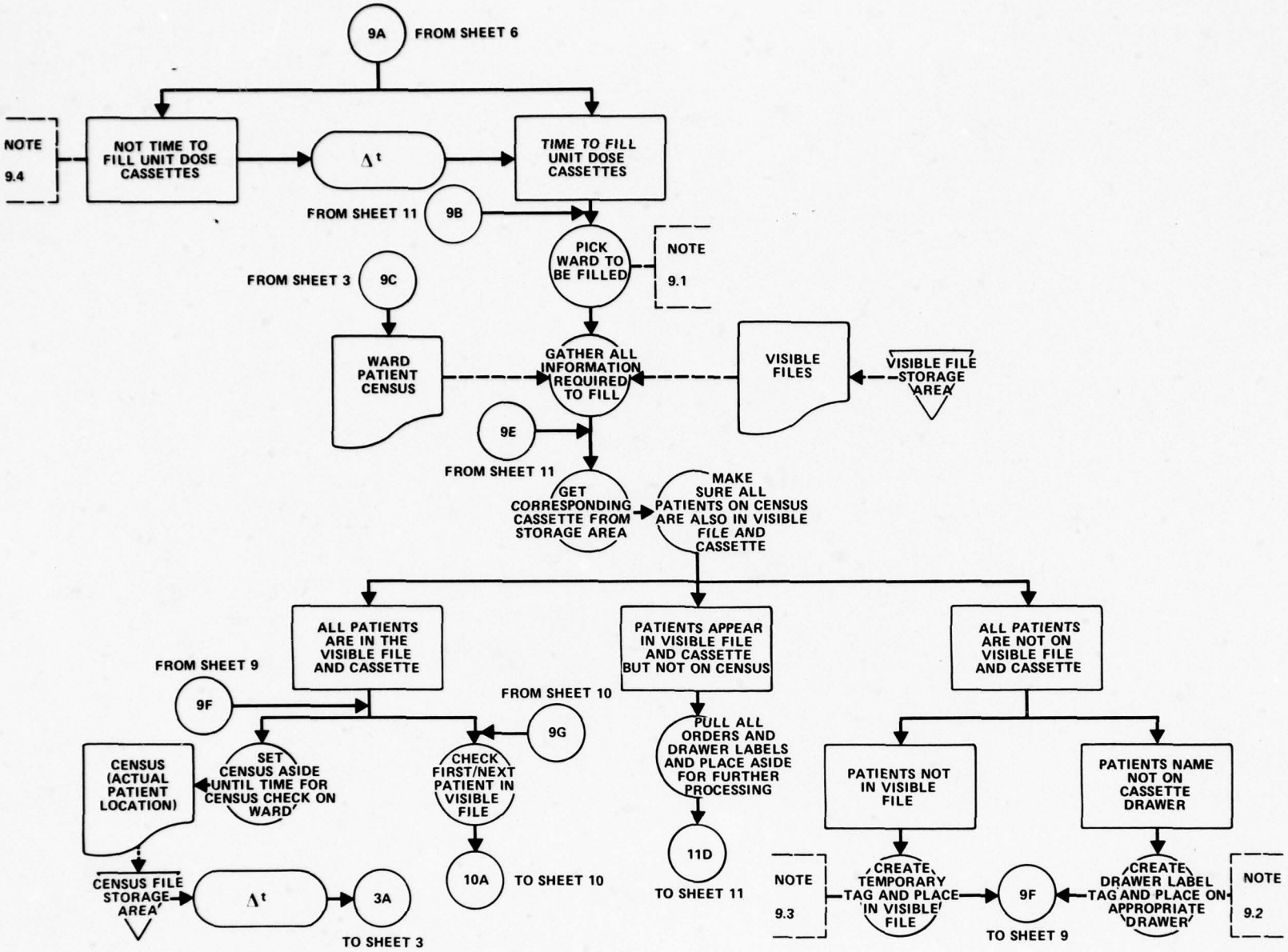
7.2 If the order is not on the ward, the solution will be left and the order sent to the pharmacy when it is available (the pharmacist will verbally validate the order based on conversation with the prescriber or the nurse).

7.3 Many IVs will be delivered by Telelift during non-peak workload periods.

7.4 Stat orders would be called to the pharmacy to allow preparation and delivery in a suitable time frame.



PHARMACY SUBSYSTEM
INPATIENT PHARMACY CYCLE
SHEET 8 OF 11 28 OCT 75



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PHARMACY SUBSYSTEM
INPATIENT PHARMACY CYCLE
SHEET 9 OF 11 28 OCT 75

NOTES ON INPATIENT PHARMACY CYCLE FLOW CHARTS

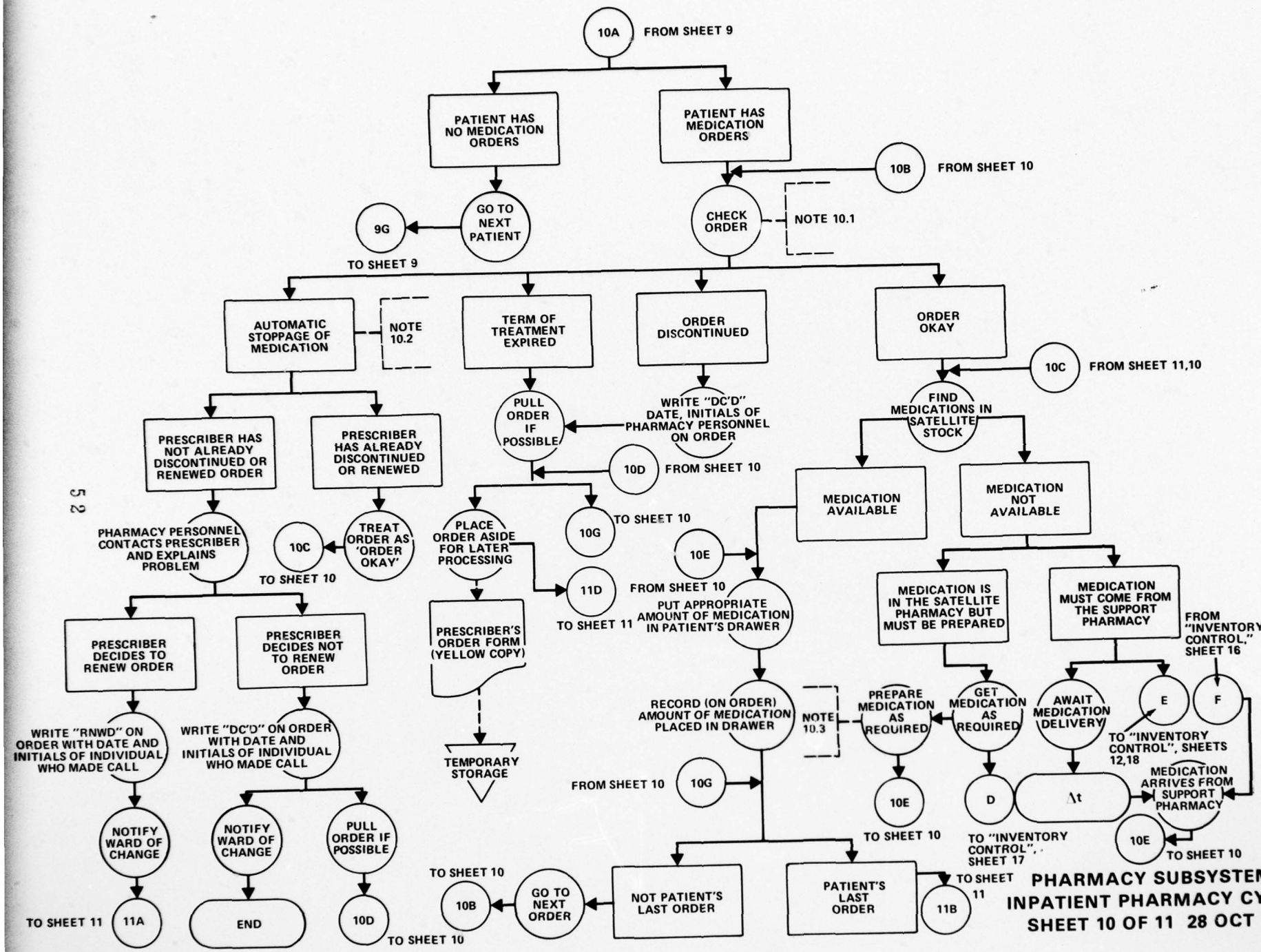
SHEET 9

9.1 Each satellite has an established procedure as to which ward is filled first, second, third, ... etc. This is not a rigid schedule and may be changed according to patient loads.

9.2 The drawer label data elements are patient's name and first initial, bed number, and allergy/sensitivity (may be multiple labels if two or more drawers required).

9.3 The temporary label consists of patients name (last name first) and bed number.

9.4 The routine filling of unit dose cassettes may be interrupted to fill other Stat or Time Critical Orders.


10A
FROM SHEET 9
PATIENT HAS NO MEDICATION ORDERS
PATIENT HAS MEDICATION ORDERS
10B
FROM SHEET 10
GO TO NEXT PATIENT
9G
TO SHEET 9
CHECK ORDER
NOTE 10.1
AUTOMATIC STOPPAGE OF MEDICATION
NOTE 10.2
TERM OF TREATMENT EXPIRED
ORDER DISCONTINUED
ORDER OKAY
10C
FROM SHEET 11,10
PRESCRIBER HAS NOT ALREADY DISCONTINUED OR RENEWED ORDER
PRESCRIBER HAS ALREADY DISCONTINUED OR RENEWED
PULL ORDER IF POSSIBLE
WRITE "DC'D" DATE, INITIALS OF PHARMACY PERSONNEL ON ORDER
10D
FROM SHEET 10
FIND MEDICATIONS IN SATELLITE STOCK
PHARMACY PERSONNEL CONTACTS PRESCRIBER AND EXPLAINS PROBLEM
10C
TO SHEET 10
TREAT ORDER AS 'ORDER OKAY'
PLACE ORDER ASIDE FOR LATER PROCESSING
10G
TO SHEET 10
MEDICATION AVAILABLE
MEDICATION NOT AVAILABLE
10E
FROM SHEET 10
11D
TO SHEET 11
PUT APPROPRIATE AMOUNT OF MEDICATION IN PATIENT'S DRAWER
PRESCRIBER DECIDES TO RENEW ORDER
PRESCRIBER DECIDES NOT TO RENEW ORDER
PRESCRIBER'S ORDER FORM (YELLOW COPY)
MEDICATION IS IN THE SATELLITE PHARMACY BUT MUST BE PREPARED
MEDICATION MUST COME FROM THE SUPPORT PHARMACY
FROM "INVENTORY CONTROL," SHEET 16
RECORD (ON ORDER) AMOUNT OF MEDICATION PLACED IN DRAWER
NOTE 10.3
PREPARE MEDICATION AS REQUIRED
GET MEDICATION AS REQUIRED
AWAIT MEDICATION DELIVERY
E
F
TO "INVENTORY CONTROL", SHEETS 12,18
WRITE "RNWD" ON ORDER WITH DATE AND INITIALS OF INDIVIDUAL WHO MADE CALL
WRITE "DC'D" ON ORDER WITH DATE AND INITIALS OF INDIVIDUAL WHO MADE CALL
TEMPORARY STORAGE
FROM SHEET 10
10G
10E
TO SHEET 10
D
Δt
MEDICATION ARRIVES FROM SUPPORT PHARMACY
TO "INVENTORY CONTROL", SHEET 17
10E
TO SHEET 10
NOTIFY WARD OF CHANGE
NOTIFY WARD OF CHANGE
PULL ORDER IF POSSIBLE
TO SHEET 10
10B
GO TO NEXT ORDER
NOT PATIENT'S LAST ORDER
PATIENT'S LAST ORDER
TO SHEET 11
11B
TO SHEET 11
11A
END
10D
TO SHEET 10
PHARMACY SUBSYSTEM
INPATIENT PHARMACY CYCLE
SHEET 10 OF 11 28 OCT 75

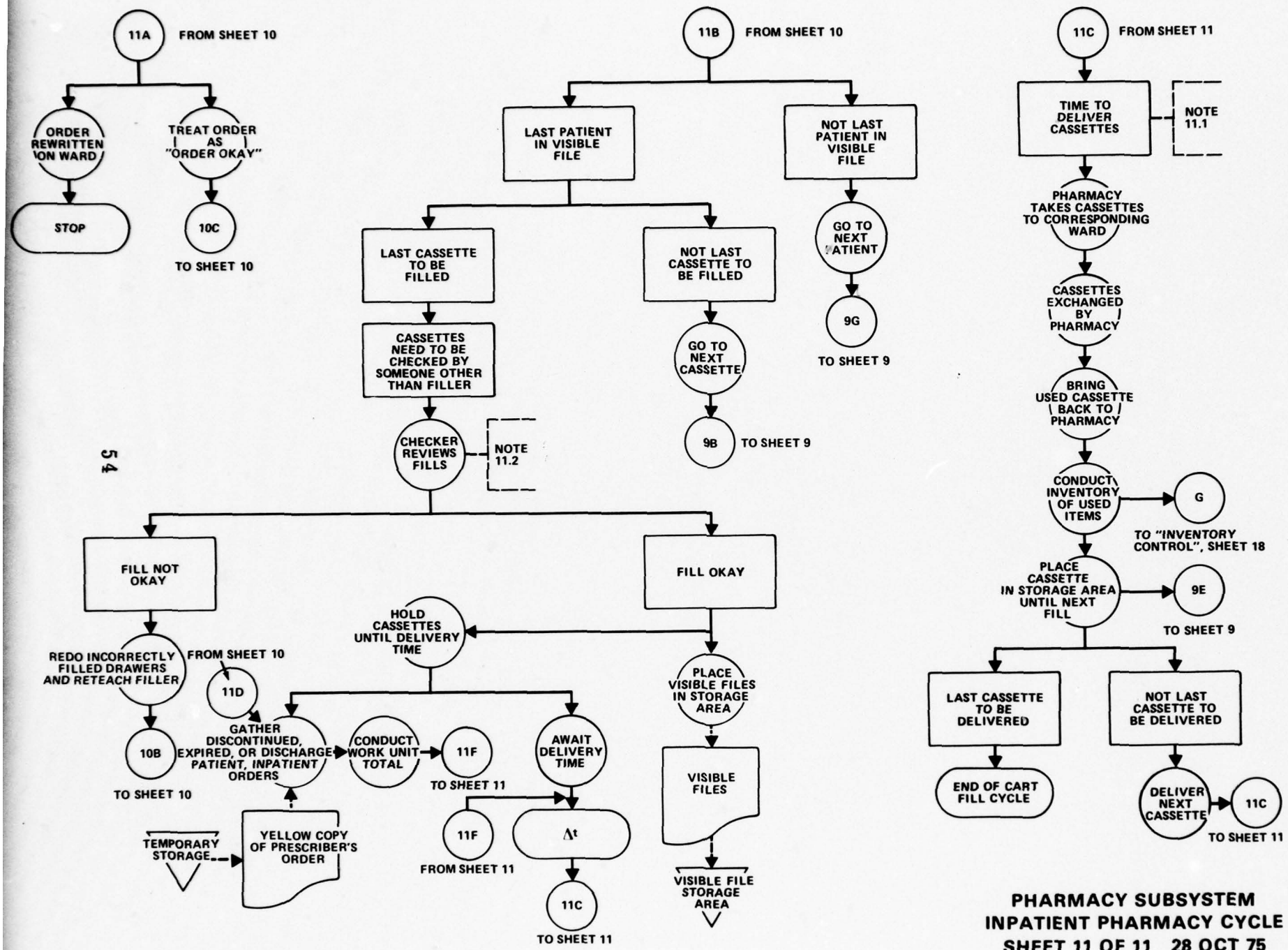
NOTES ON INPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 10

10.1 The orders are checked for any automatic stop orders (ASO), any orders for which term of treatment is expired, or orders which were discontinued.

10.2 This is when a medication is stopped due to an established length of treatment. Medications of this type are narcotics, antibiotics, ... etc. The length of treatment is established by the TAB and the hospital commander, by the hospital commander, or by established nursing procedures.

10.3 The amount prepared depends on the medication, the patient (adult or child) and the diagnosis. When an order is a Stat or Time Critical order, only enough dosages will be prepared to last until the next cassette delivery. If the order is a routine order, a certain number of dosages is prepared (i.e., 2-3 days supply).



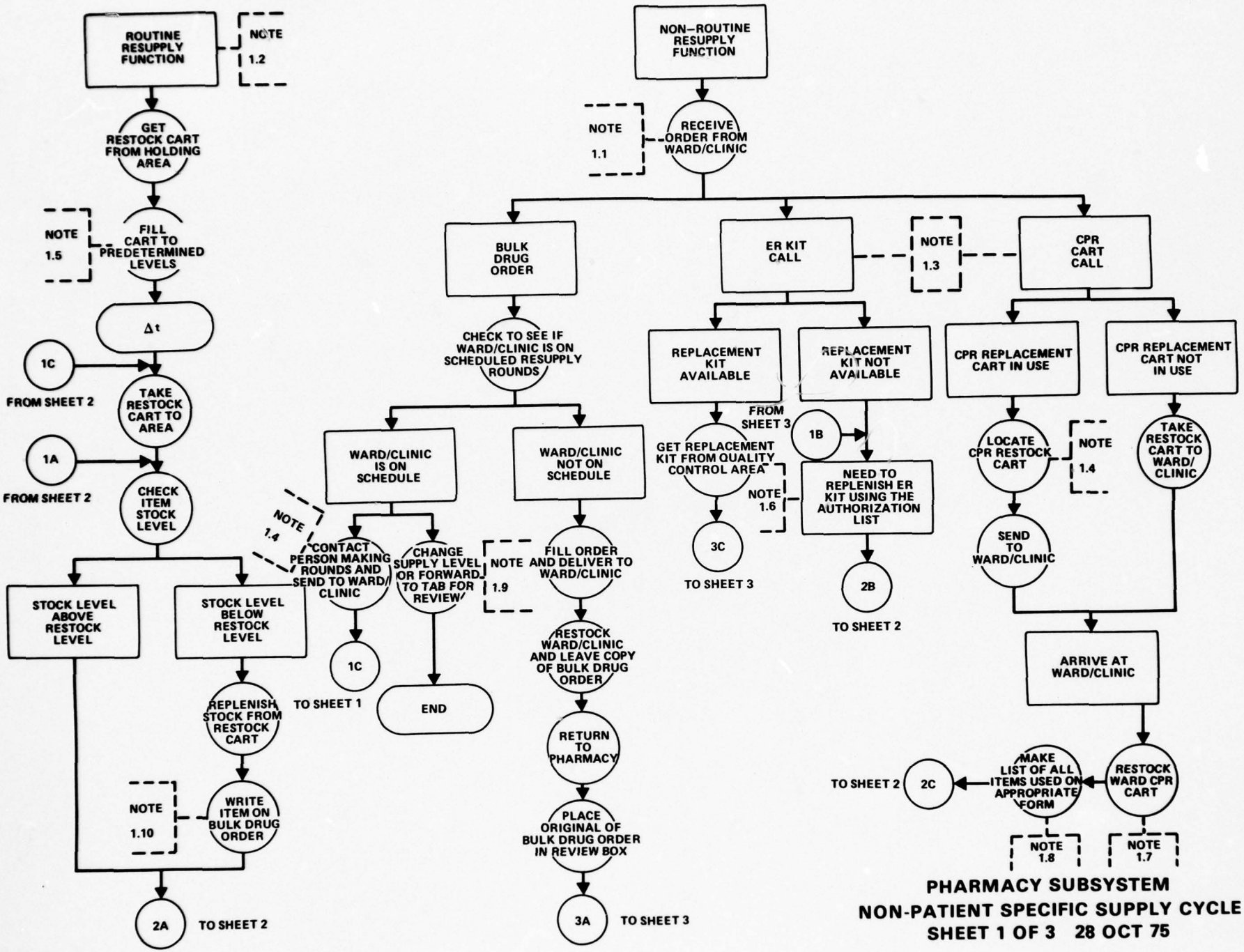
PHARMACY SUBSYSTEM
INPATIENT PHARMACY CYCLE
SHEET 11 OF 11 28 OCT 75

NOTES ON INPATIENT PHARMACY CYCLE FLOW CHARTS

SHEET 11

11.1 The delivery schedule is a procedure set-up by each satellite pharmacy and delivery is routinely made when convenient to the ward.

11.2 The checker reviews the entire fill to make sure the correct medications and amounts have been placed in the correct patient drawers. The check is accomplished one drawer and one patient at a time as in the original fill process.



PHARMACY SUBSYSTEM
NON-PATIENT SPECIFIC SUPPLY CYCLE
SHEET 1 OF 3 28 OCT 75

NOTES ON NON-PATIENT SPECIFIC SUPPLY CYCLE FLOW CHARTS

SHEET 1

1.1 These orders are Bulk Drug Orders for ward/clinic stock or staff "comfort items" which have been used or are calls informing the pharmacy that the ER kit or CPR Cart has been used.

1.2 This process will provide automatic resupply for MOD cabinets, and ward/clinic stock. The MOD Cabinet is located in the ER/ASO area and is used after the outpatient pharmacy closes for the night. It will contain a predetermined group of all labeled treatment prepack items that will be routinely used in treating patients after outpatient pharmacy hours.

1.3 All ER kit and CPR Cart calls are handled by the Pharmacy Quality Control (QC) Team during the regular QC duty period and by the 4th floor pharmacy thereafter.

1.4 A Page Boy will be used to make locating cart personnel on rounds easier (assigned to Chief, Pharmacy Service).

1.5 The Ward/Clinic Restock Cart contains staff "comfort items", and bulk liquids and other necessary ward/clinic stock items authorized by TAB for ward/clinic use.

1.6 ER kits have a list posted on them of the items and amounts of each item to be placed or replaced in the kits. The kit being replenished is not the ER kit on the ward but the returned exchange

NOTES ON NON-PATIENT SPECIFIC SUPPLY CYCLE FLOW CHARTS

SHEET 1 (CONTINUED)

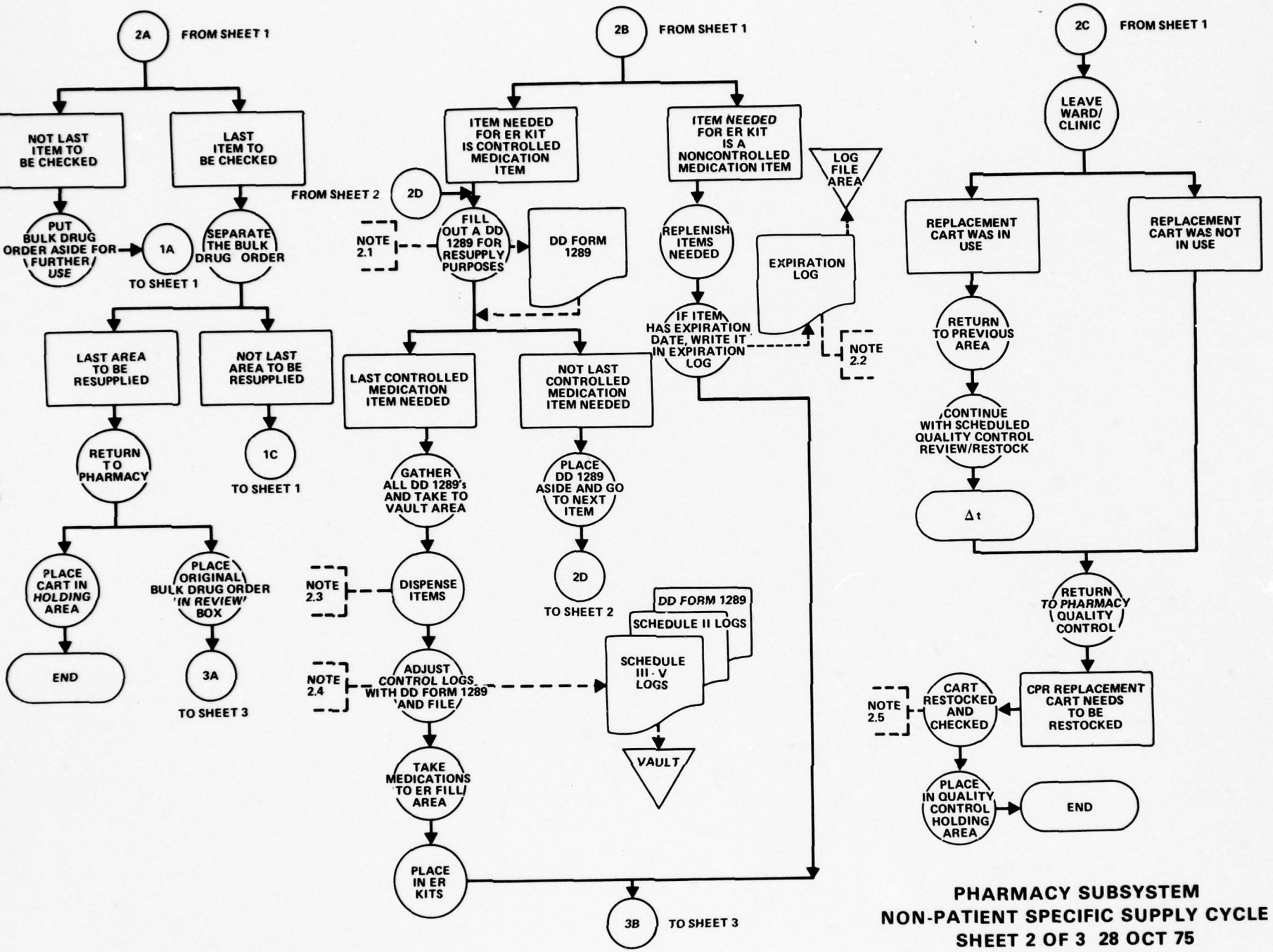
kit in the pharmacy needing to be filled (extra kits are routinely available, CPR carts must be filled in place however).

1.7 During the process of restocking; the expiration dated items, items on suspense list, and all items on the CPR Cart in question will be routinely checked (quality assurance).

1.8 Non-controlled stock will be placed on Bulk Drug Orders with expiration dates if applicable. Controlled stock will be placed on DD Form 1289 with expiration dates where applicable. In either case, the location will be placed in the space provided for patient's name or specific area space on the form used.

1.9 Newly requested ward/clinic stock items are reviewed and approved by TAB. The levels of such stock, unless considered excessive, may be increased/decreased as appropriate to the demands of patient care and changing patient mix.

1.10 The Bulk Drug Order has the following data: the specific area where the list was prepared, date order filled out, medication name and strength, dosage form, unit of issue, quantity requested, and signature of pharmacy staff person making order.



PHARMACY SUBSYSTEM
NON-PATIENT SPECIFIC SUPPLY CYCLE
SHEET 2 OF 3 28 OCT 75

NOTES ON NON-PATIENT SPECIFIC SUPPLY CYCLE FLOW CHARTS

SHEET 2

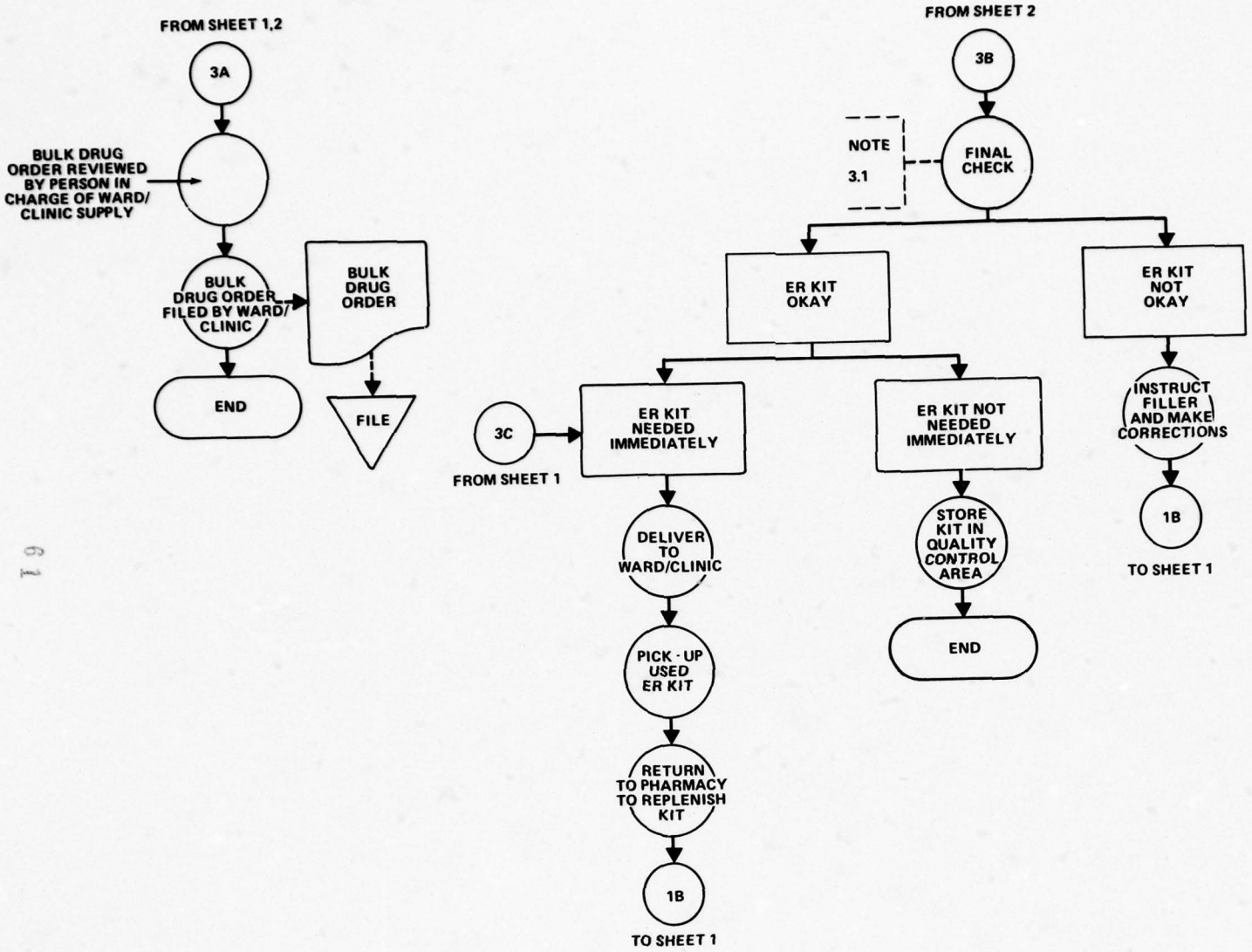
2.1 The DD Form 1289 is filled out as it would be for a normal prescription with the following changes: specific ER kit or CPR Cart is noted instead of patient's name, a registered pharmacist signs instead of a prescriber, no instructions are indicated on the form, and the RX symbol is lined out. Data elements which remain unchanged are as follows: medication name and strength, dosage form, and amount to be dispensed. Only one item can be ordered per DD 1289.

2.2 The data elements entered in the log are date of expiration, medication name and strength, dosage form, the location where the medication is being placed (i.e., ER kit number or CPR Cart location), manufacturer, and lot number.

2.3 The DD Form 1289 is stamped on the front with a prescription number (which becomes the voucher number). All the DD 1289's for one unit are filled at one time but are entered in the controlled drug log one at a time.

2.4 The information entered is date dispensed, quantity dispensed, voucher number, adjusted balance on hand, and person dispensing the item(s).

2.5 The information captured during the restocking and checking of CPR Replacement Carts is the same as in the case of ER kit refilling.

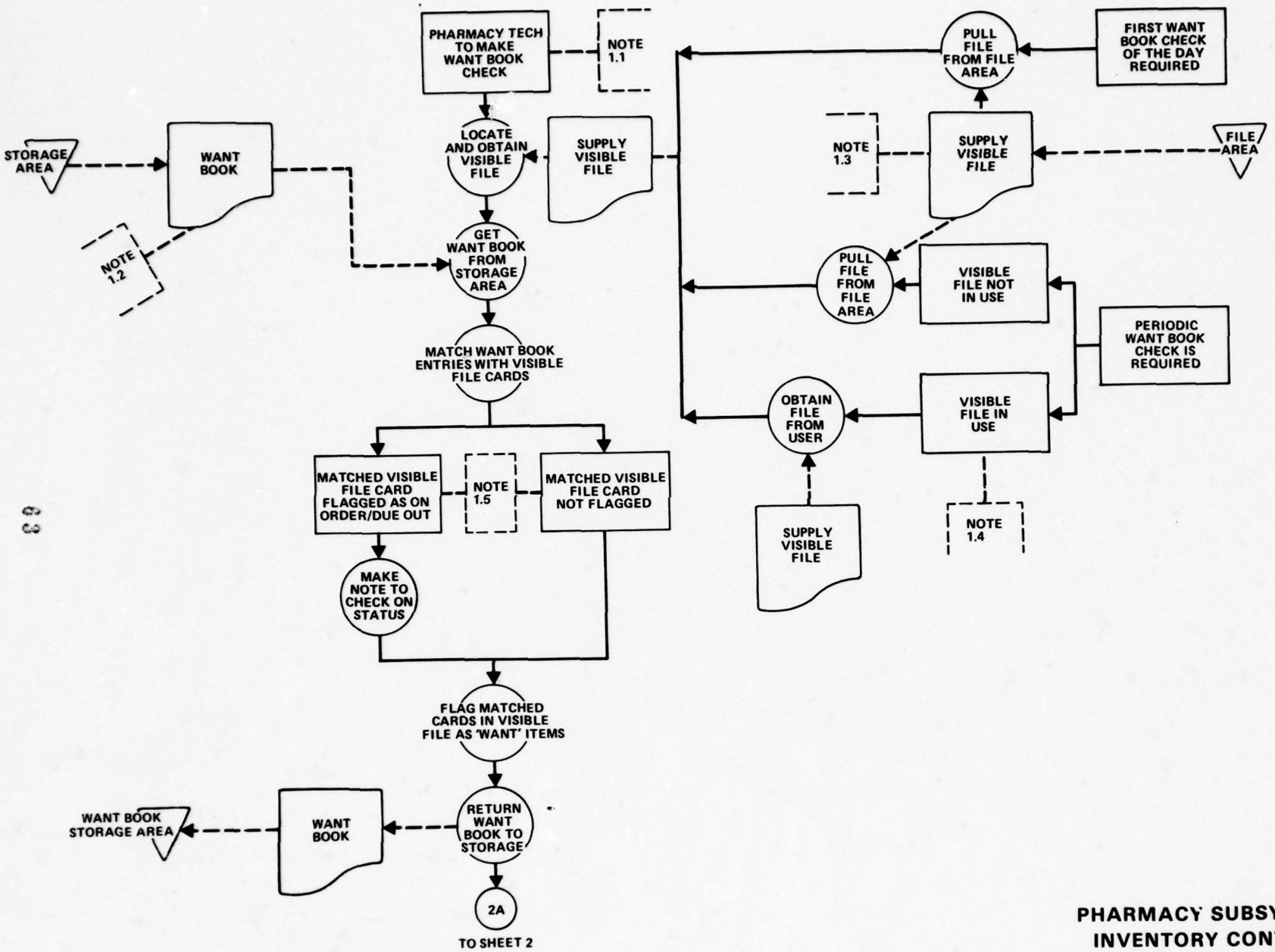


PHARMACY SUBSYSTEM
NON-PATIENT SPECIFIC SUPPLY CYCLE
SHEET 3 OF 3 28 OCT 75

NOTES ON NON-PATIENT SPECIFIC SUPPLY CYCLE FLOW CHARTS

SHEET 3

3.1 This check is made by someone other than the filler and the review assures that the right medications and amounts are placed in each kit or in the CPR Replacement cart inventory.



PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 1 OF 21 28 OCT 75

NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 1

1.1 This want book check is made at the start of the day and at periodic intervals thereafter.

1.2 The want book contains the list of items that for one reason or another cannot be found in the supply area, or which have been noted as below their reorder point. The want book is always kept in the same place in the supply area. The data elements placed in the want book are the medication name and strength, dosage form, and the ID of the person who noted the shortage.

1.3 The Supply Visible File is a stock code listing of all the items required in order to operate the pharmacy. The data elements listed in the Visible File are: the item name (if medication, generic and trade names), medication strength (if applicable), dosage form (if applicable), National Stock Number (NSN), operating maximum stock level*, reorder point*, safety level, amount on hand, amount due out, amount received, date ordered, date received, date due in*, unit of issue, order document number, supplier* (Logistics, wholesaler [Gilpin or District] purchasing & contracting, or other sources [loans], storage notes, manufacturer(s) lot number, expiration date*, unit price*, quality control information*, and descriptive data. Starred (*) items are data elements that are to be entered in pencil to facilitate changes/updates.

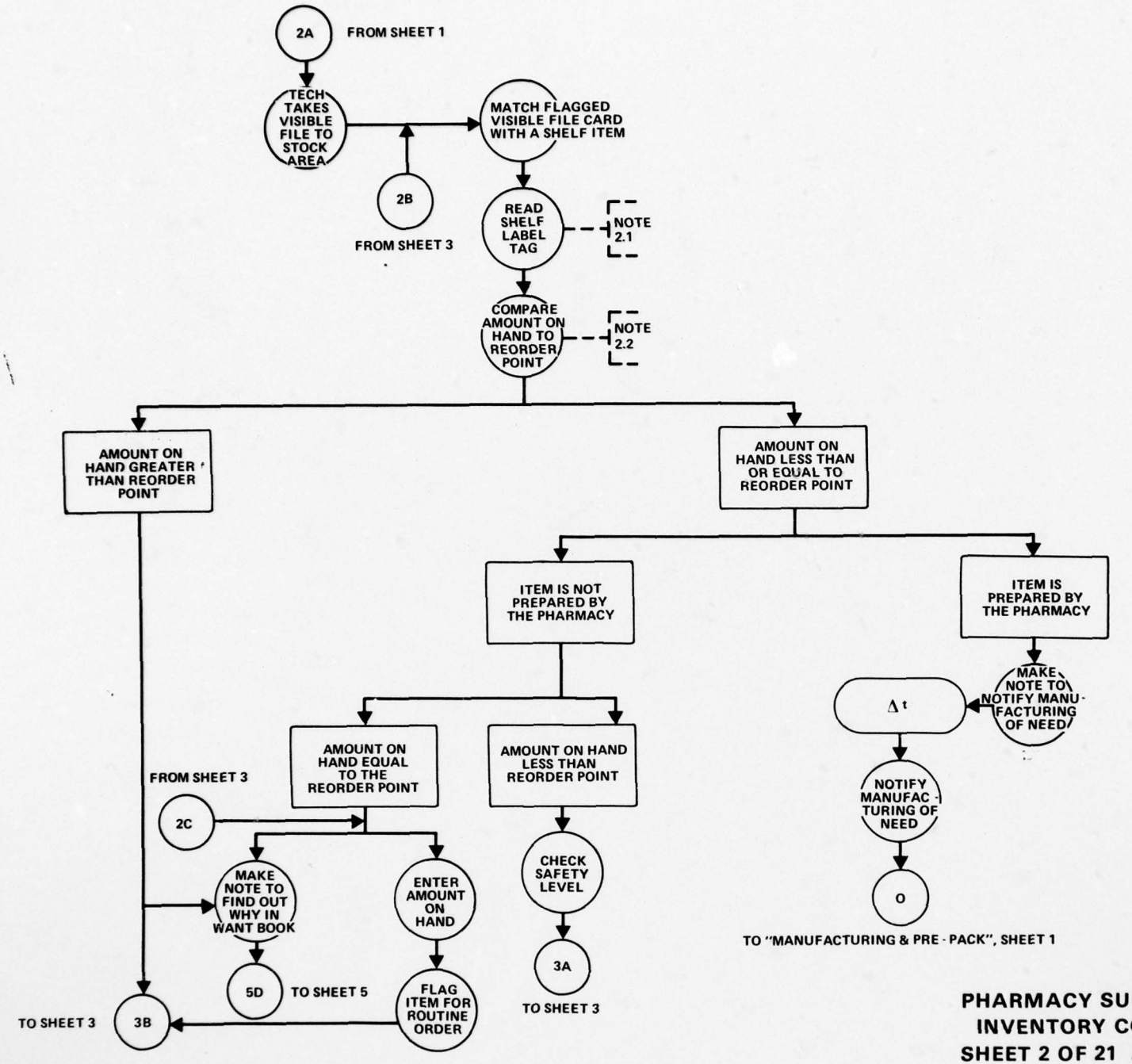
1.4 The visible file, when in use, can be located in three places in most cases: (1) in the stock area being used for inventory,

NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 1 (CONTINUED)

(2) in the stock receipt area being updated while receiving supplies, or (3) in the office area being used to check the stock control parameters.

1.5 The flags referred to are small pieces of colored plastic. We foresee the need for 5 different flags: (1) item was placed in want book, (2) need for routine order, (3) item is on order, (4) item is due out to Logistics, and (5) item needs special order.



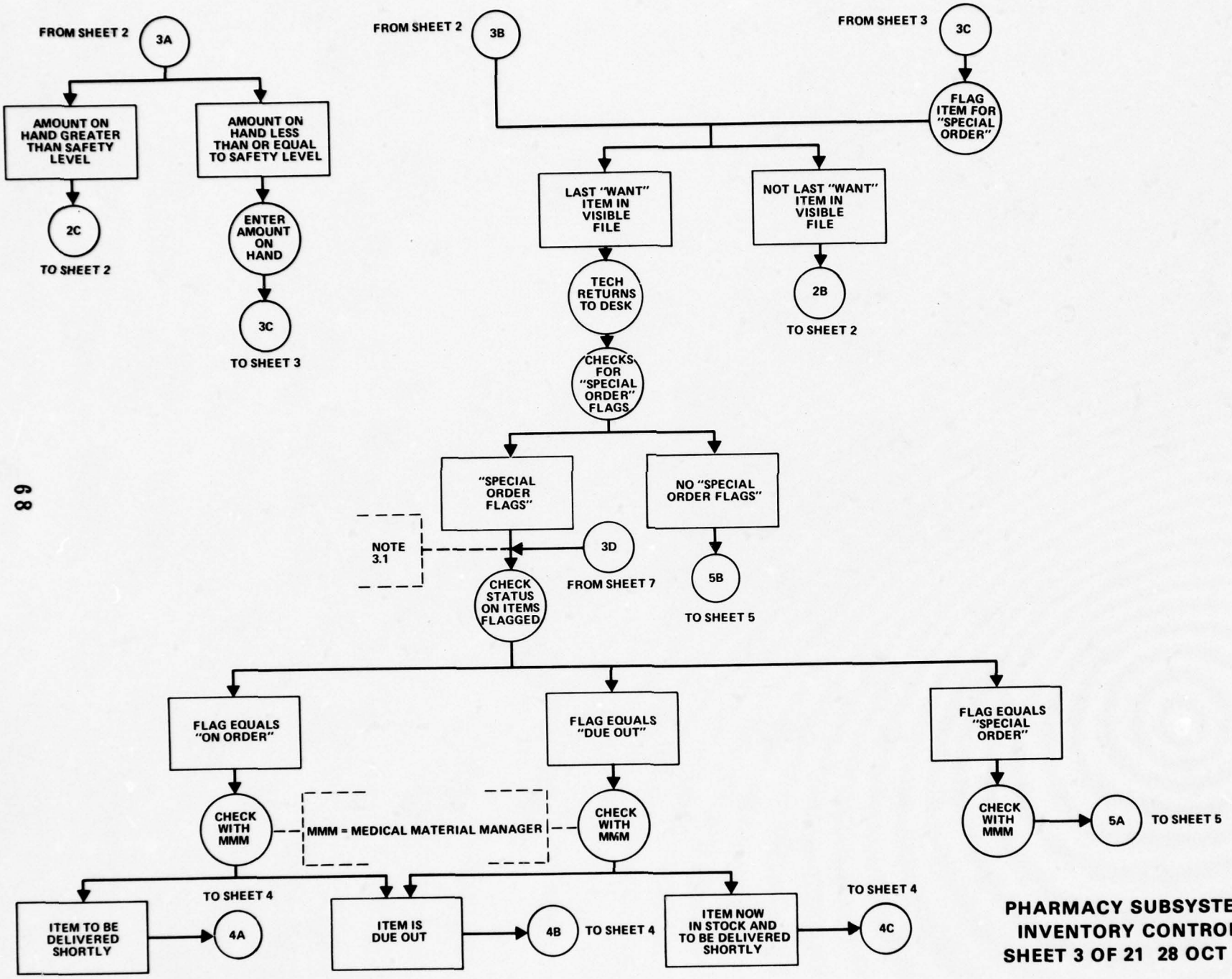
PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 2 OF 21 28 OCT 75

NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 2

2.1 The Shelf Label (a magnetic strip with a paper label face) is placed on the outer edge of the shelf under the item. The data elements on the label are the item name (if medication, generic & trade names), unit of issue, descriptive data, operating/maximum stock level, reorder point, safety level, and if a medication, strength and dosage form.

2.2 In the case of a controlled item, the comparison is made using the DA form 3862 (Controlled Substances Stock Record). The data elements on a DA form 3862 are item name (if medication, generic & trade), medication stength and dosage form, columns for date of transaction, quantity received, voucher number, person receiving or dispensing item, quantity dispensed and balance on hand.

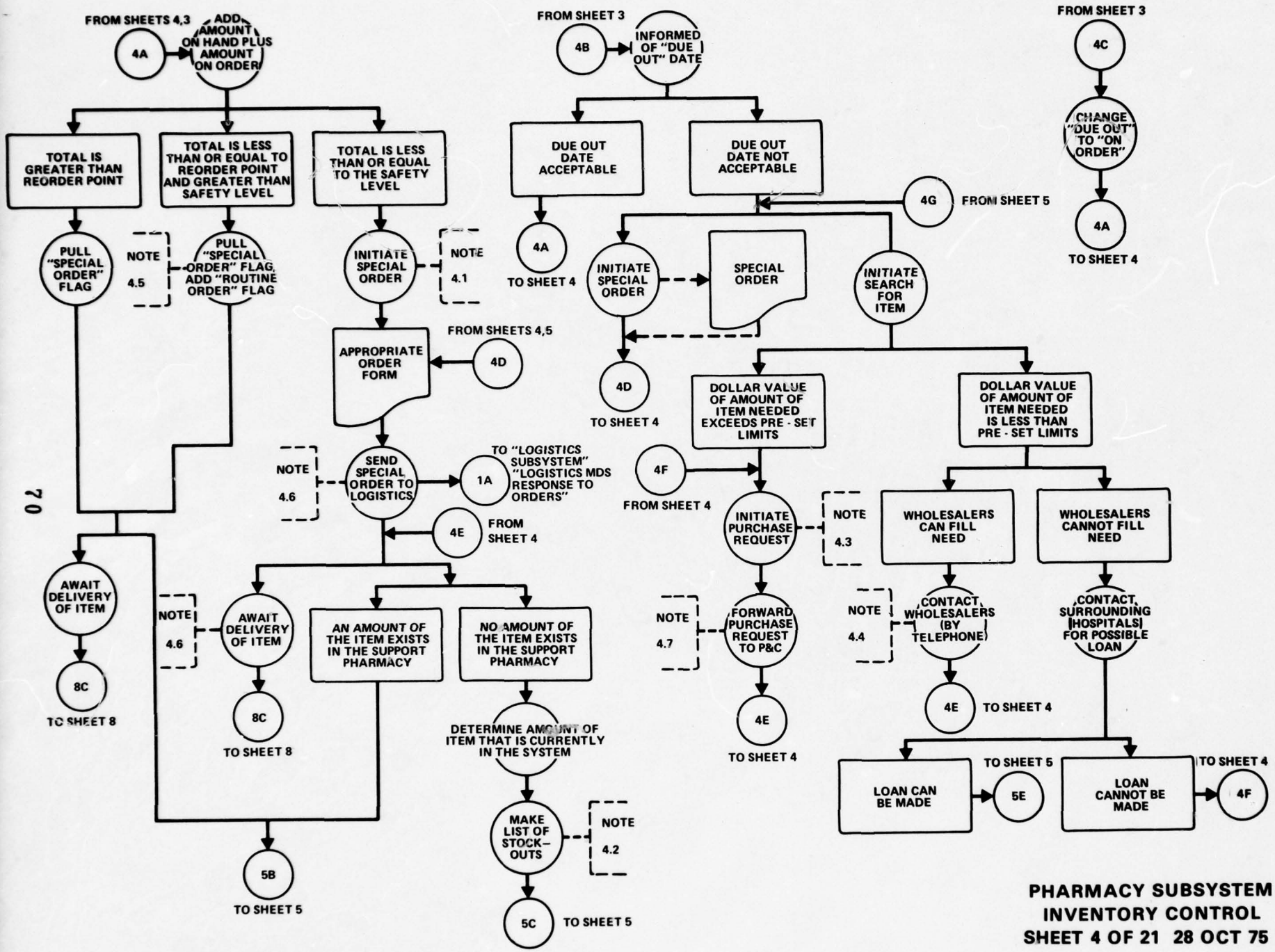


PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 3 OF 21 28 OCT 75

NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 3

3.1 For Connector 3D, this path is not dependent upon the occurrence of a "special order" Flag.



PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 4 OF 21 28 OCT 75

NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 4

4.1 The order is prepared on a DA Form 2765 if the item is not a controlled medication item (note R or K). The data elements on this card are National Stock Number, unit of issue, unit price, document register number, priority, demand, cost detail account number, organization code, quantity requested, item description, total price, material category code, and Julian date.

If the item ordered is a controlled medication item, a DA Form 2765-1 is used. The data elements are the same as the DA Form 2765 plus the addresses of the facilities handling the items, which are clearly shown to facilitiate an audit.

If the order is for a non-standard item which is not prestocked, a DA Form 3161 is used. The data elements on this form are: issue/turn-in, request number, from requesting activity to issuing activity, date required, priority, accounting & funding data, stock number, description, coding of material, unit of issue, quantity, unit price, total cost, justification, date ordered, ordering officer, date received, receiving officer, total cost per sheet, and total cost per order.

The designation that the order is a special order (immediate need), or routine order (normal need) is always entered in the priority blocks using a predetermined code.

4.2 The list is documented for ready reference in a note book and consists of the following information; medication name,

medication strength, dosage form, date due in, amount of drug in pharmacy system, and locations with the amount at each location.

4.3 The request is accomplished on a DA Form 3953. The data elements are: date of order, purchased for (which pharmacy-support or Forest Glen), date needed, authorization for request, description of supplies, quantity, unit of issue, estimated unit and total price, source or vendor, how item is used, date of signature, name and signature of initiating officer, and accounting classification.

4.4 The pharmacy will alternate wholesale orders between Gilpin and District Wholesalers when applicable (wholesaler usually known to carry item being ordered).

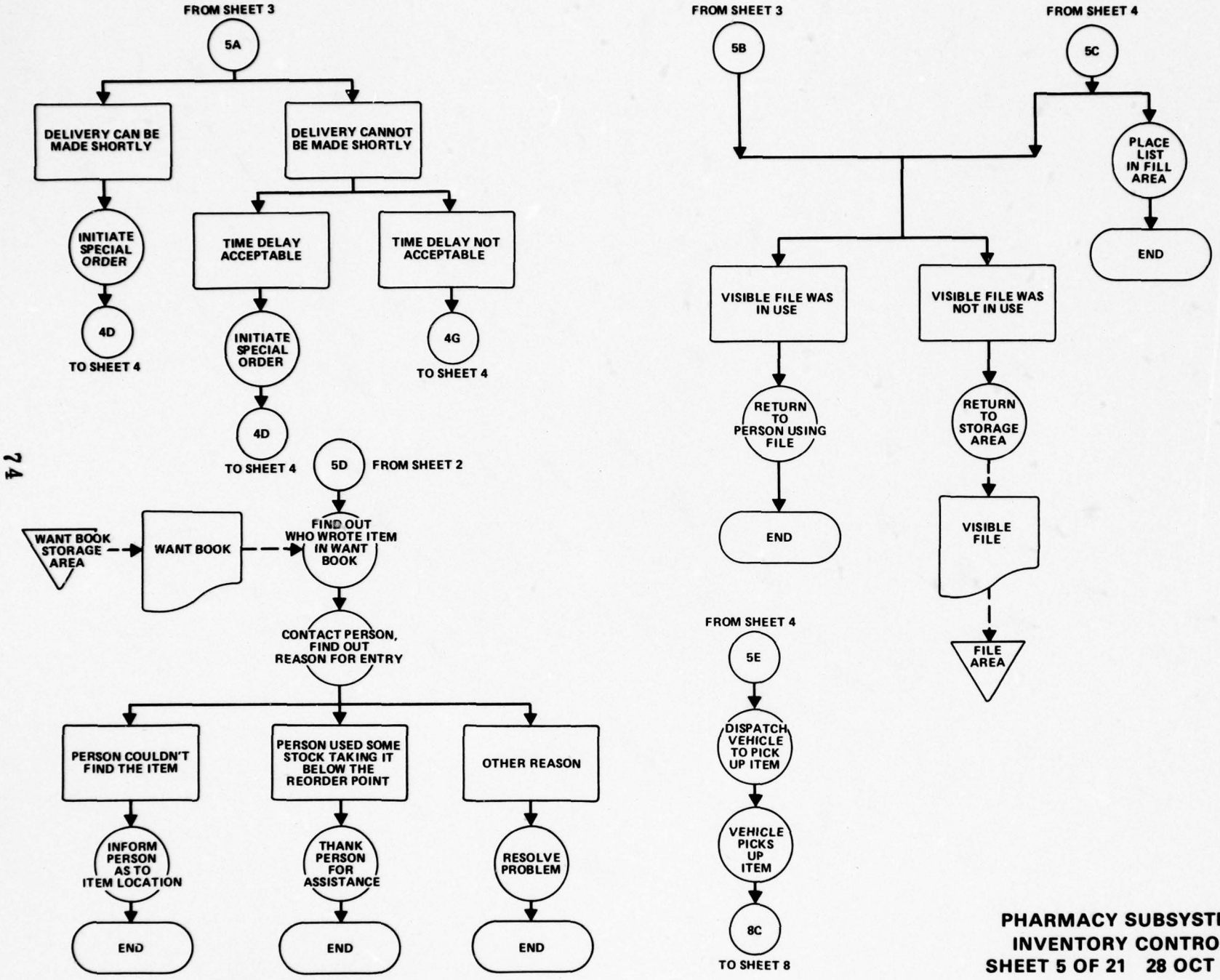
4.5 Other flags, if present, are not removed.

4.6 The special order, on either DA Form 2765 or DA Form 2765-1, is routed to the Medical Material Manager (MMM) through the Hospital Logistics System (HLS). The MMM functions are outside the HLS functional responsibilities. For this reason the MMM manual functions will not be flowcharted by Logistics. The Medical Material Manager's handling determination of the special order is communicated through HLS. This routing process will not be flowcharted since no action is taken by HLS other than forwarding the handling determination to the customer.

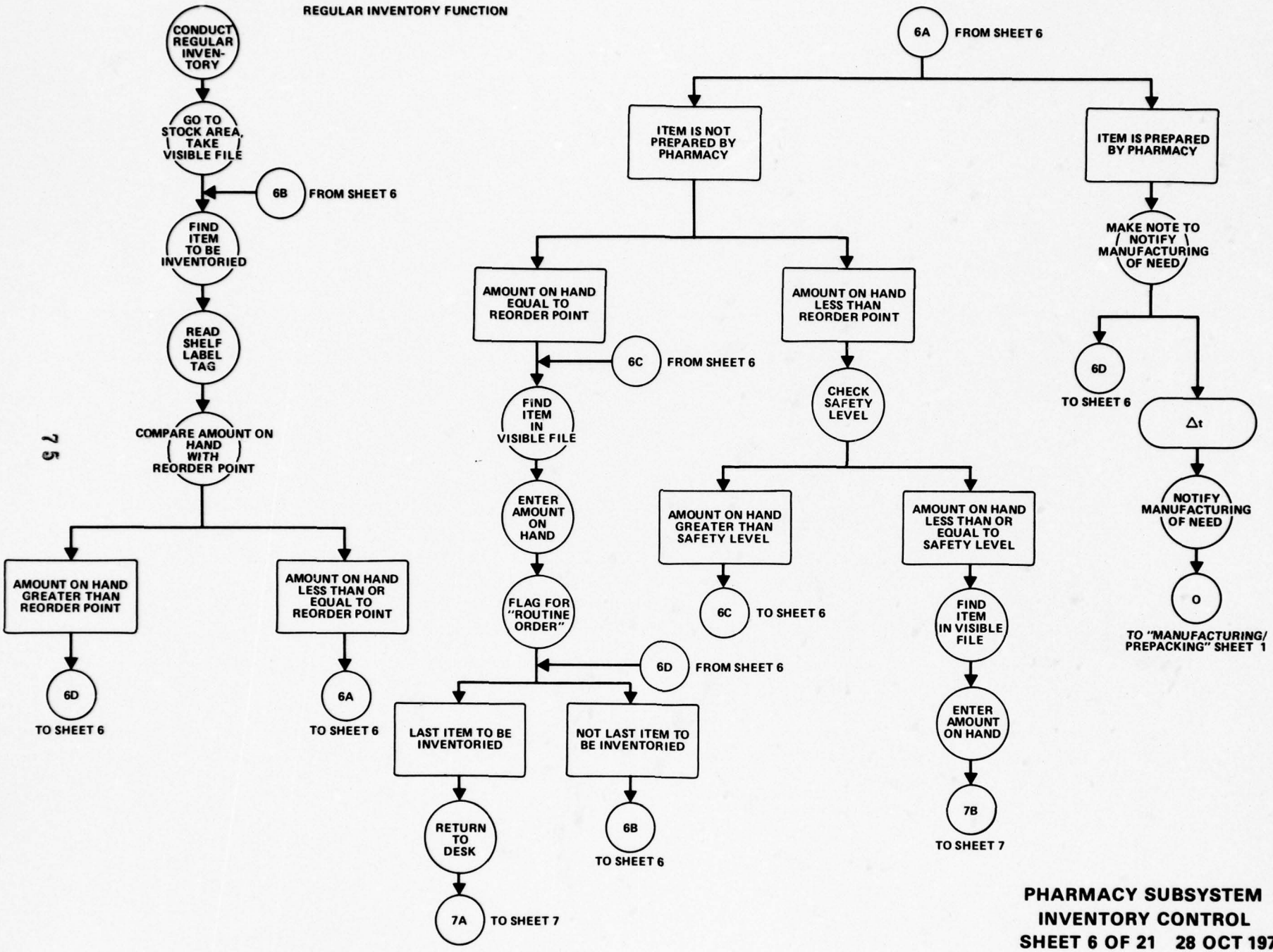
NOTES ON MANUAL INVENTROY CONTROL FLOW CHARTS

SHEET 4 (CONTINUED)

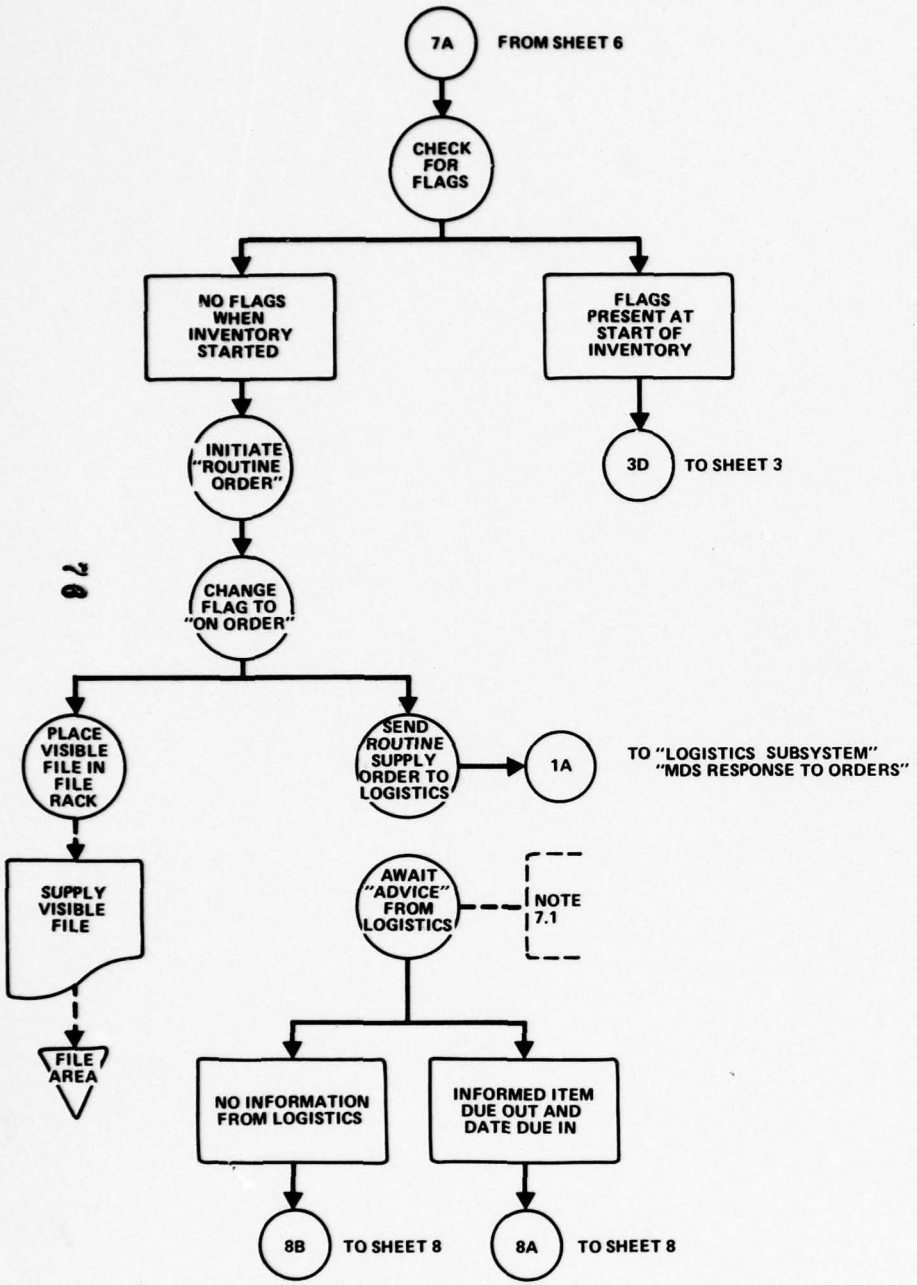
4.7 The functions of Purchasing and Contracting (P and C) are outside the Hospital Logistics System functional responsibility. For this reason P and C functions will not be flowcharted by Logistics.

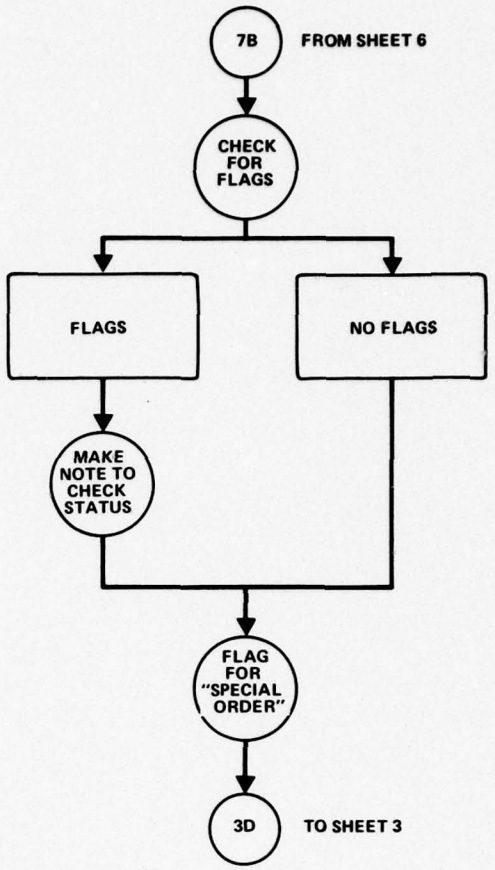


PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 5 OF 21 28 OCT 1975



PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 6 OF 21 28 OCT 1975



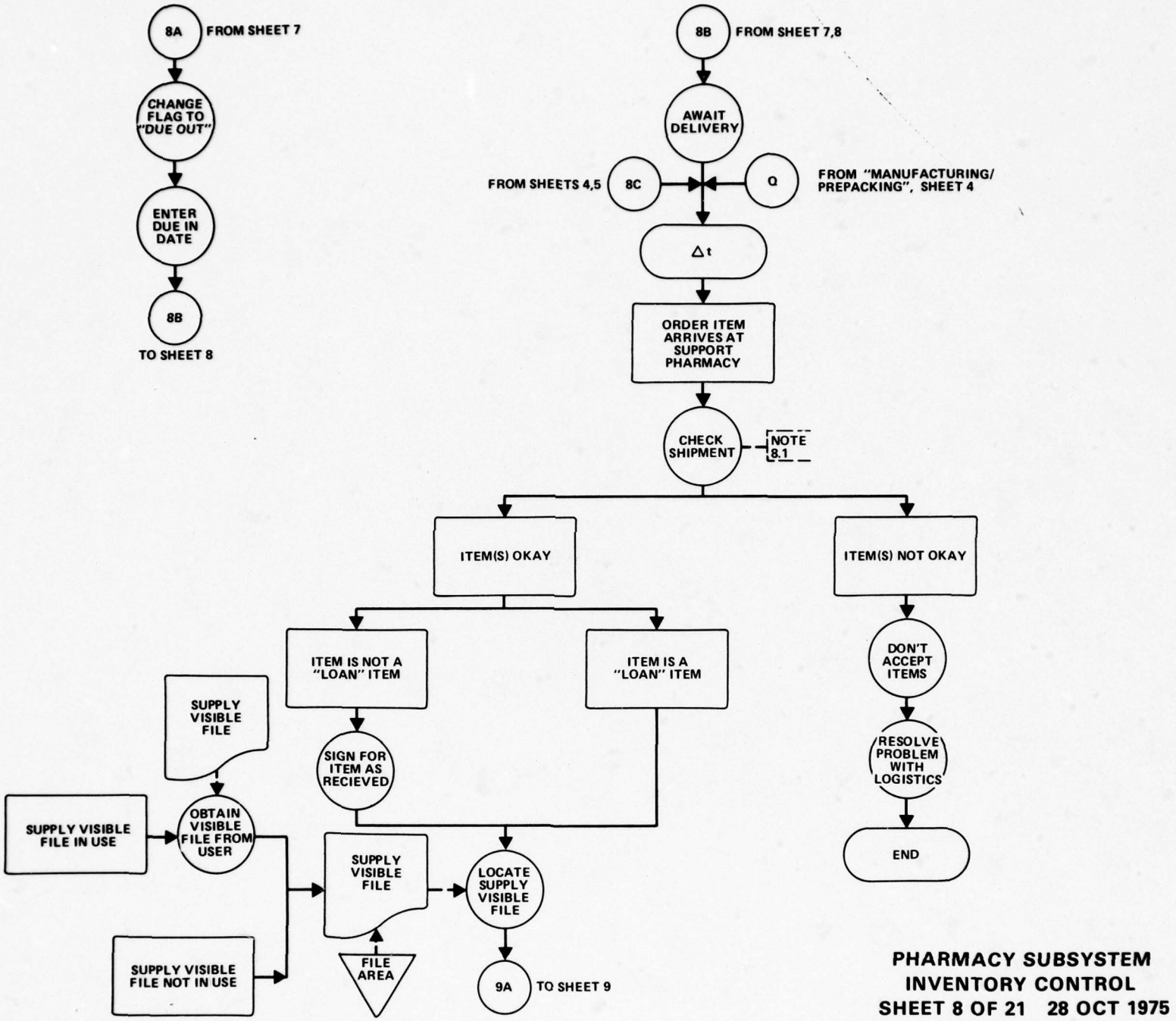


PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 7 OF 21 28 OCT 75

NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 7

7.1 The routine order is routed to the Medical Material Manager (MMM) through the Hospital Logistics System (HLS). The MMM functions are outside the HLS functional responsibilities. For this reason the MMM manual functions will not be flowcharted by Logistics. The Medical Material Manager's handling determination of the routine order is communicated through HLS. This routing process will not be flowcharted since no other action is taken by HLS.

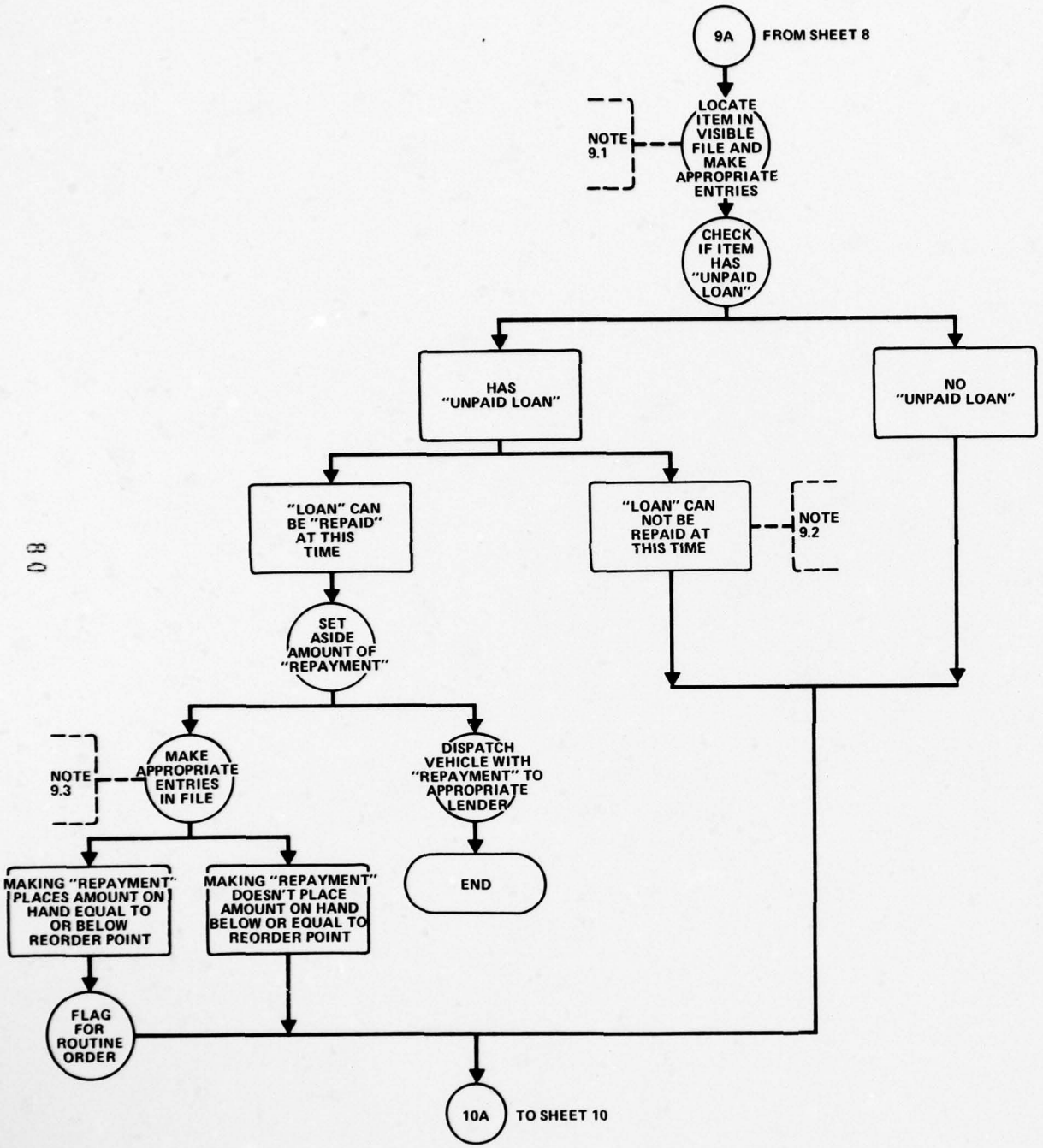


PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 8 OF 21 28 OCT 1975

NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 8

8.1 The shipment is checked for broken or damaged containers, sealed containers which have been opened, damaged items sent from Logistics, partial order fills, wrong item sent, or expired item sent.



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PHARMACY SUBSYSTEM
INVENTORY CONTORL
SHEET 9 OF 21 28 OCT 75

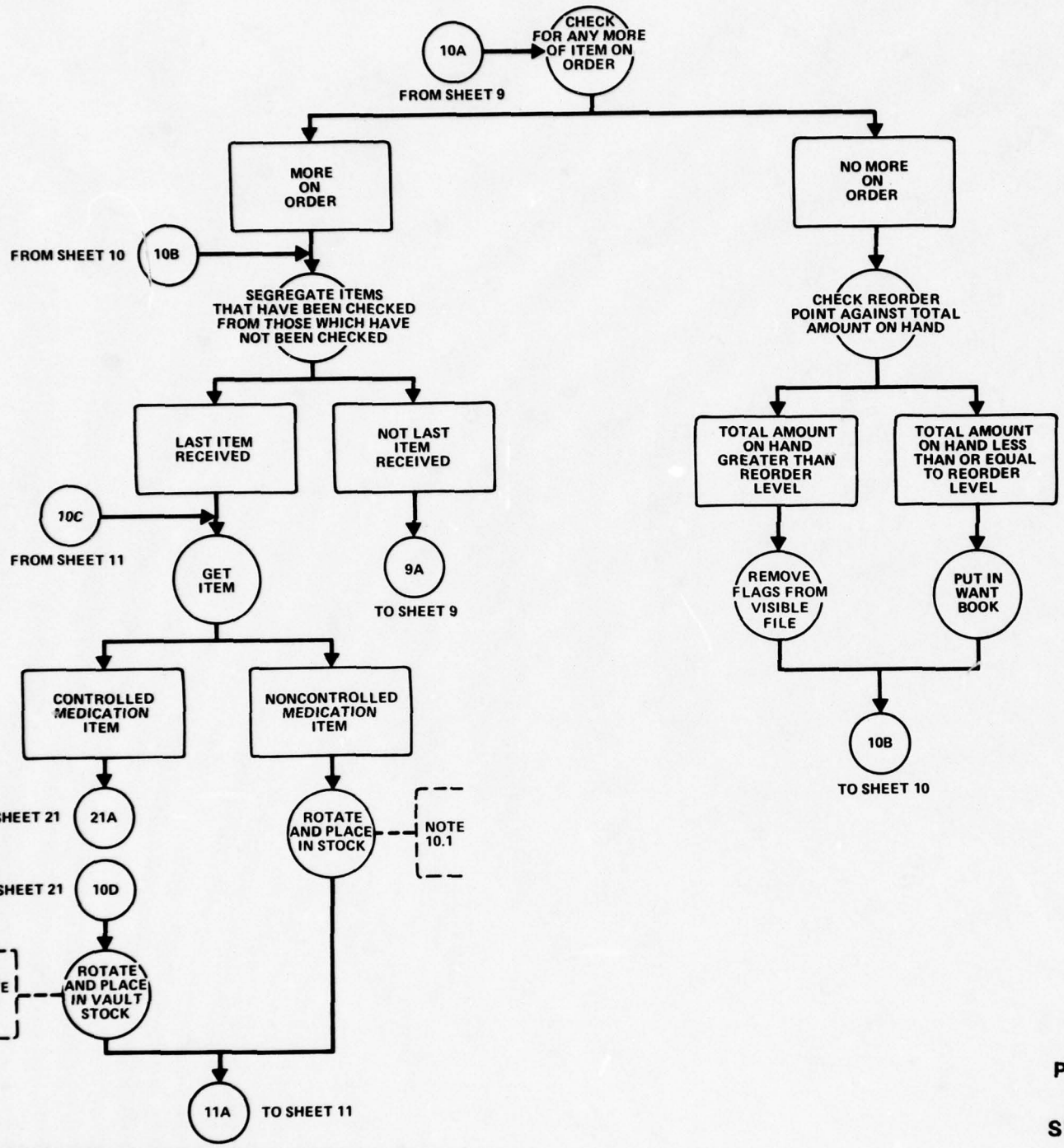
NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 9

9.1 The entries made on the card are date received, quantity received, expiration date, manufacturer, and lot number. If the item is being loaned to the pharmacy (for repayment to lender at a later time) the information also entered is the amount of loan and from where the item came for repayment purposes. The amount will be circled to signify item was borrowed.

9.2 The "loan repayment" will not be made if such action would necessitate a special order for item.

9.3 The entries are the date of "repayment" and the initials of the person authorizing "repayment".

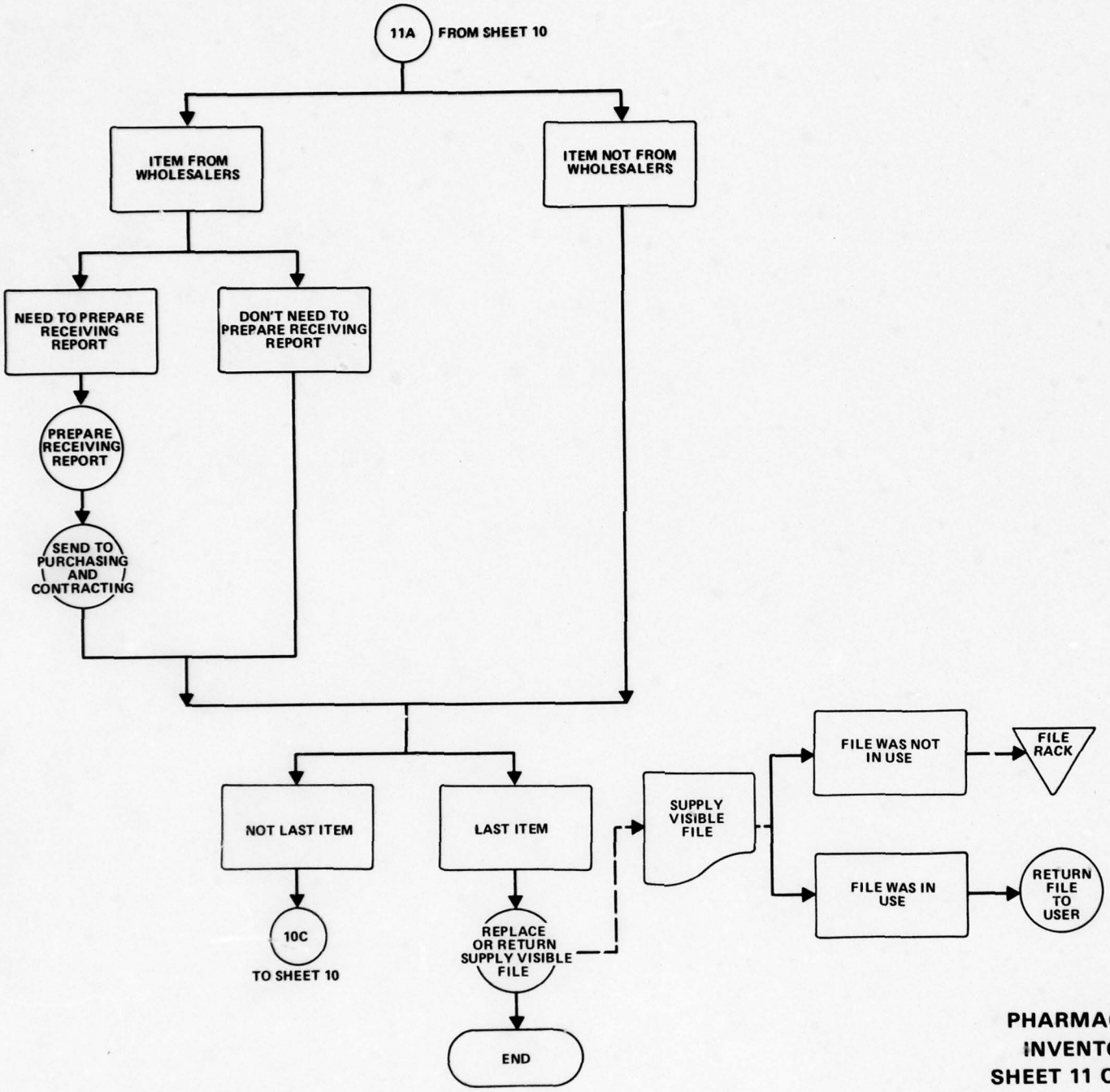


PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 10 OF 21 28 OCT 75

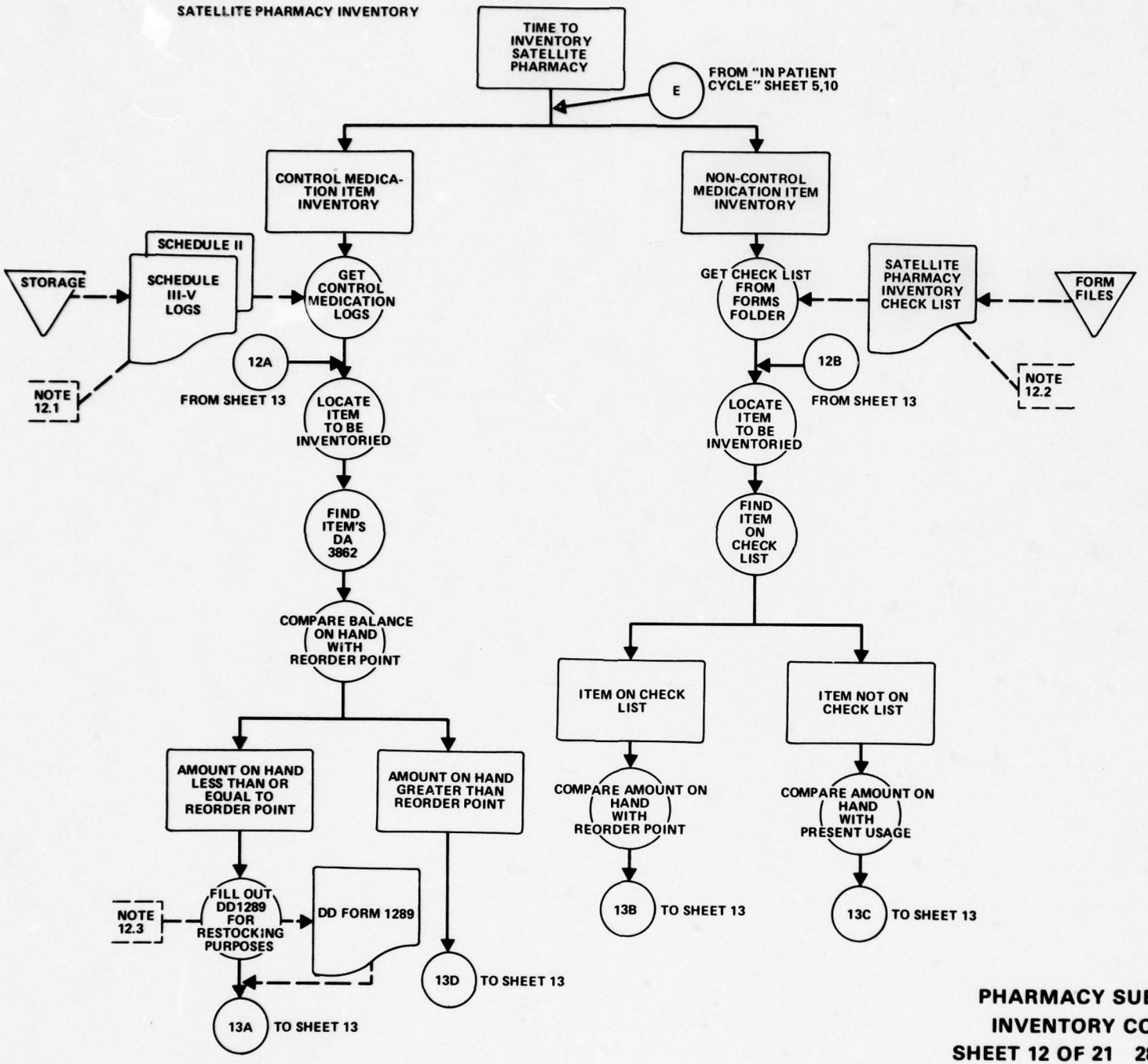
NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 10

10.1 The stock is rotated so that first in is first out (FIFO) with exception of dated items, which will be rotated to be dispensed prior to expiration date regardless of date of receipt if at all possible.



PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 11 OF 21 28 OCT 1975



PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 12 OF 21 28 OCT 1975

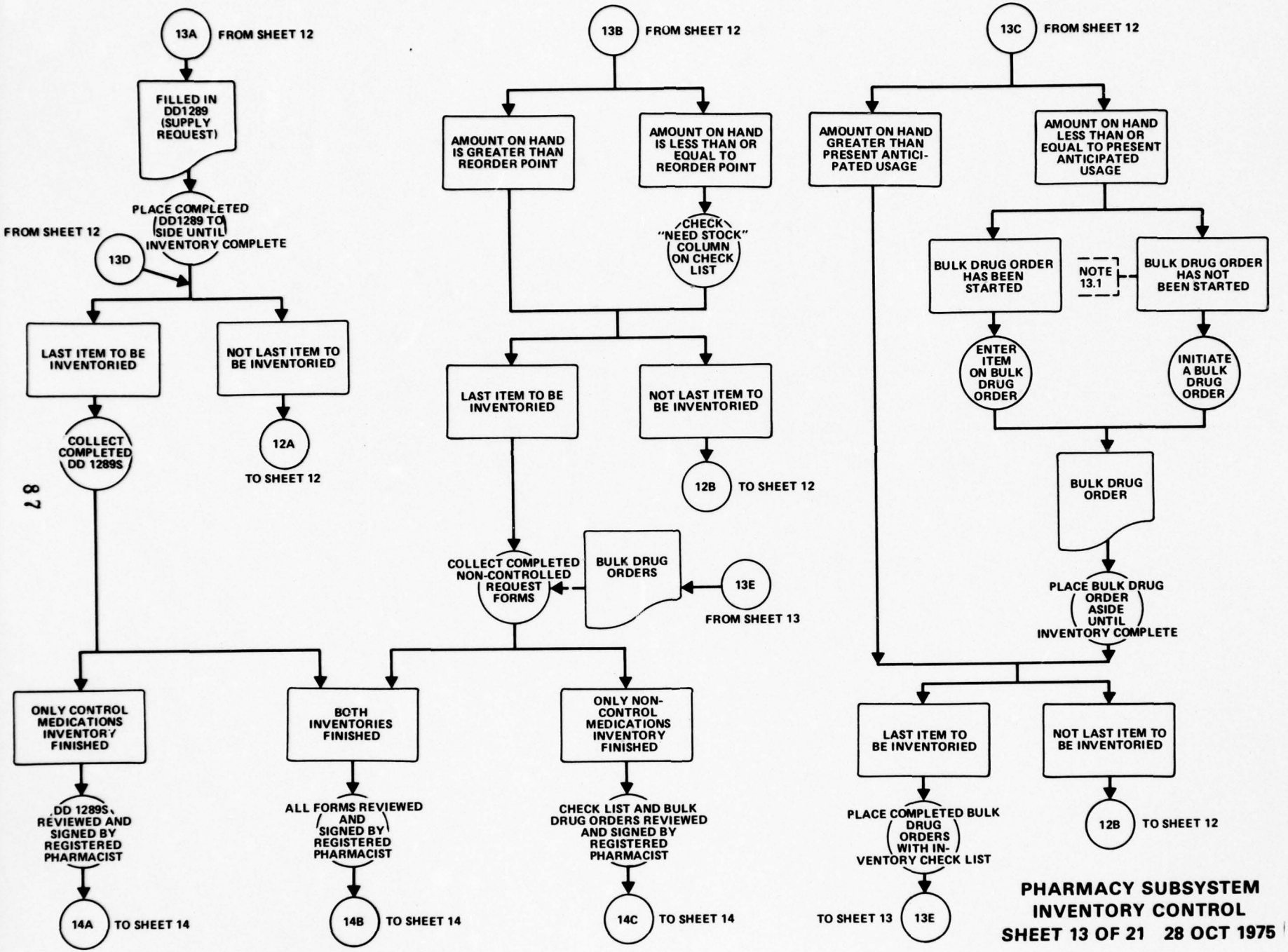
NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 12

12.1 The control logs consist of DA Form 3862 (Controlled Substances Stock Record). The data elements are medication name, medication strength, dosage form, reorder point, maximum stock level, and columns for date of transactions, quantity received, quantity dispensed, balance on hand, and person receiving or dispensing item.

12.2 The Satellite Pharmacy Inventory Check List consists of only those items used in each specific satellite pharmacy (i.e., 5th floor pharmacy will not stock all medications that are specifically used on the 6th or 4th floors). The data elements on this list are medication name, medication strength, dosage form, reorder point, need stock column (amount of stock to be sent to the satellite is predetermined), and signature of the pharmacist in charge. Two copies of this form are prepared (orginial and carbon).

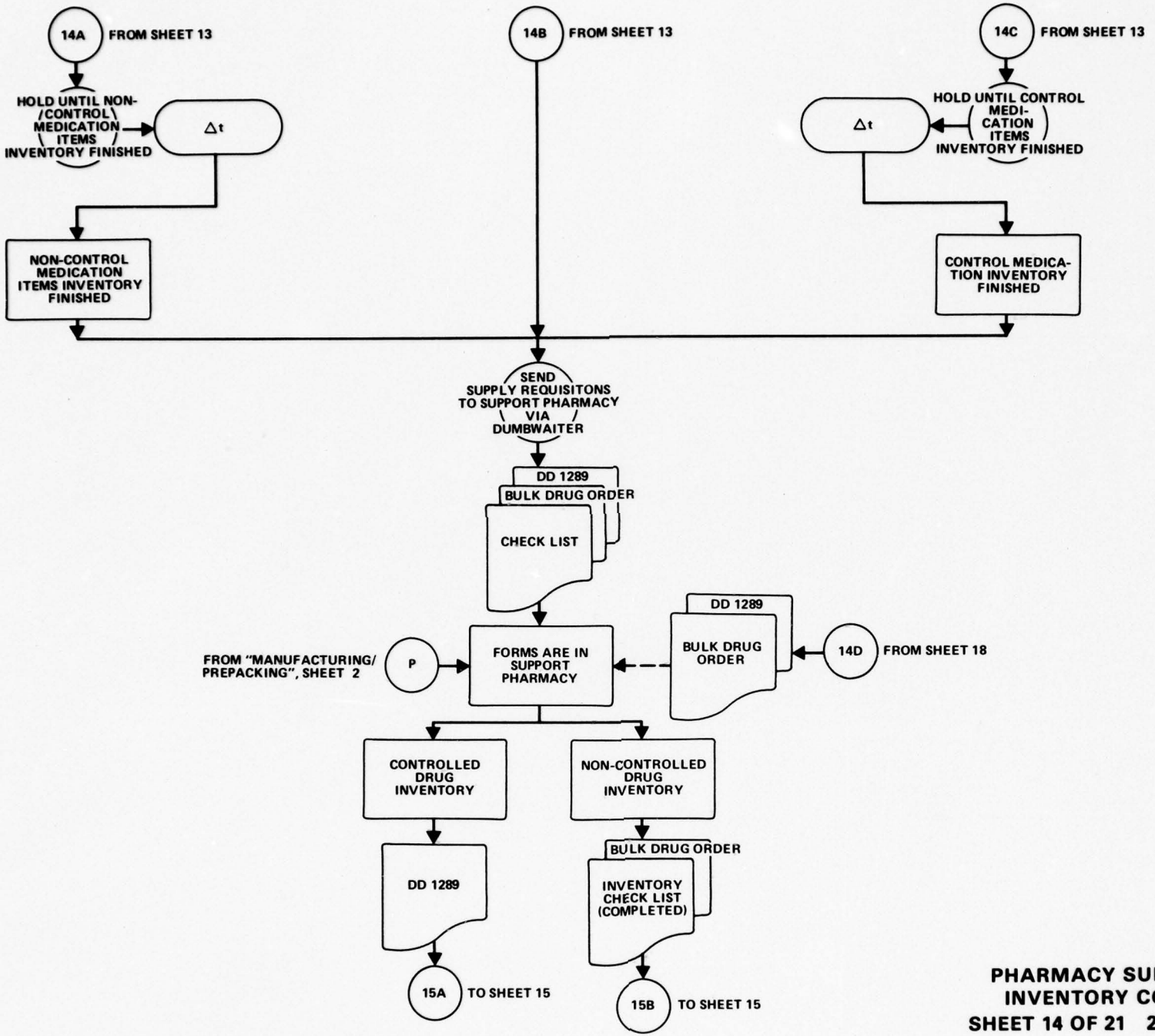
12.3 The DD Form 1289 is filled out as it would be for a normal prescription with the following changes: specific satellite instead of patient's name, pharmacist signs instead of a prescriber, Rx symbol is lined out, and no instructions (directions, signa) are indicated on the form. The use of these data elements remains unchanged: medication name & strength, dosage forms, and amount to be dispensed. Only one item can be ordered per DD Form 1289.


13A
FROM SHEET 12
FILLED IN DD1289 (SUPPLY REQUEST)
PLACE COMPLETED DD1289 TO SIDE UNTIL INVENTORY COMPLETE
FROM SHEET 12
13D
LAST ITEM TO BE INVENTORIED
NOT LAST ITEM TO BE INVENTORIED
COLLECT COMPLETED DD 1289S
12A
TO SHEET 12
87
13B
FROM SHEET 12
AMOUNT ON HAND IS GREATER THAN REORDER POINT
AMOUNT ON HAND IS LESS THAN OR EQUAL TO REORDER POINT
CHECK "NEED STOCK" COLUMN ON CHECK LIST
LAST ITEM TO BE INVENTORIED
NOT LAST ITEM TO BE INVENTORIED
12B
TO SHEET 12
COLLECT COMPLETED NON-CONTROLLED REQUEST FORMS
BULK DRUG ORDERS
13E
FROM SHEET 13
13C
FROM SHEET 12
AMOUNT ON HAND GREATER THAN PRESENT ANTICI-PATED USAGE
AMOUNT ON HAND LESS THAN OR EQUAL TO PRESENT ANTICIPATED USAGE
BULK DRUG ORDER HAS BEEN STARTED
NOTE 13.1
BULK DRUG ORDER HAS NOT BEEN STARTED
ENTER ITEM ON BULK DRUG ORDER
INITIATE A BULK DRUG ORDER
BULK DRUG ORDER
PLACE BULK DRUG ORDER ASIDE UNTIL INVENTORY COMPLETE
ONLY CONTROL MEDICATIONS INVENTORY FINISHED
BOTH INVENTORIES FINISHED
ONLY NON-CONTROL MEDICATIONS INVENTORY FINISHED
LAST ITEM TO BE INVENTORIED
NOT LAST ITEM TO BE INVENTORIED
DD 1289S REVIEWED AND SIGNED BY REGISTERED PHARMACIST
ALL FORMS REVIEWED AND SIGNED BY REGISTERED PHARMACIST
CHECK LIST AND BULK DRUG ORDERS REVIEWED AND SIGNED BY REGISTERED PHARMACIST
PLACE COMPLETED BULK DRUG ORDERS WITH IN-VENTORY CHECK LIST
12B
TO SHEET 12
14A
TO SHEET 14
14B
TO SHEET 14
14C
TO SHEET 14
TO SHEET 13
13E
PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 13 OF 21 28 OCT 1975

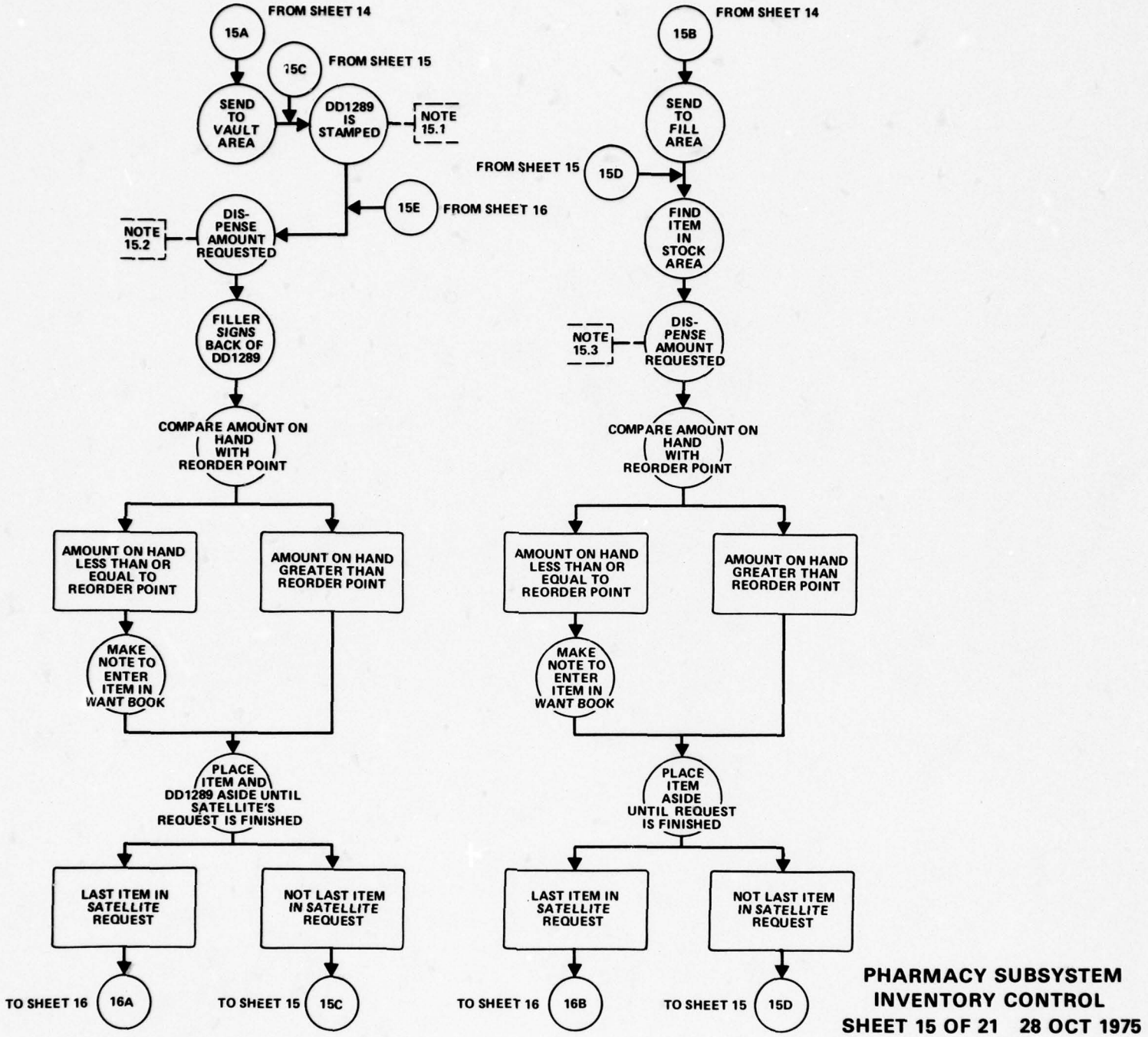
NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 13

13.1 The completed Bulk Drug Order (DA Form 8-236) includes the following data elements: the specific satellite pharmacy, date of order, medication name & strength, dosage form, unit of issue, quantity requested, and signature of pharmacist.



PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 14 OF 21 28 OCT 1975



PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 15 OF 21 28 OCT 1975

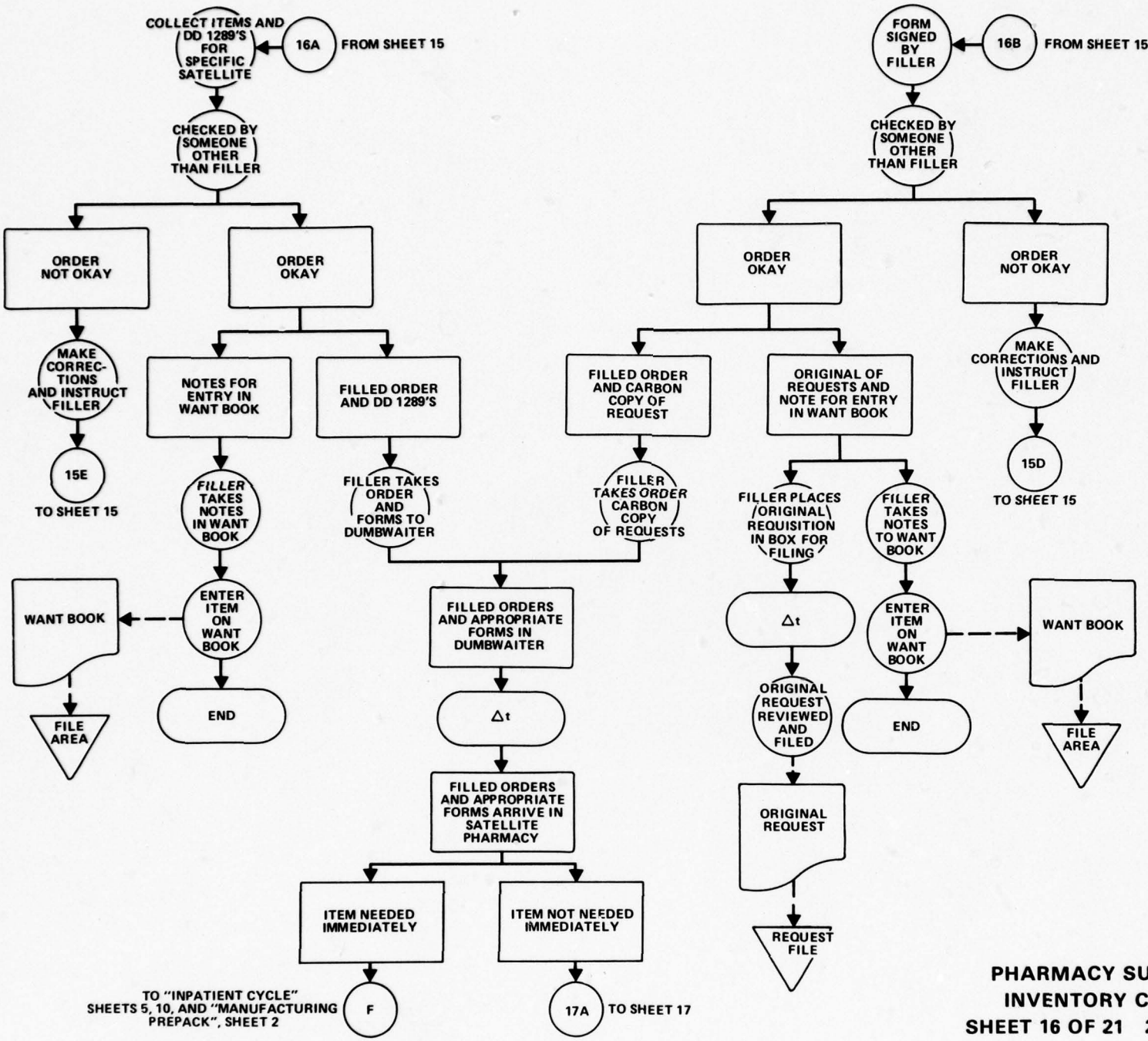
NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 15

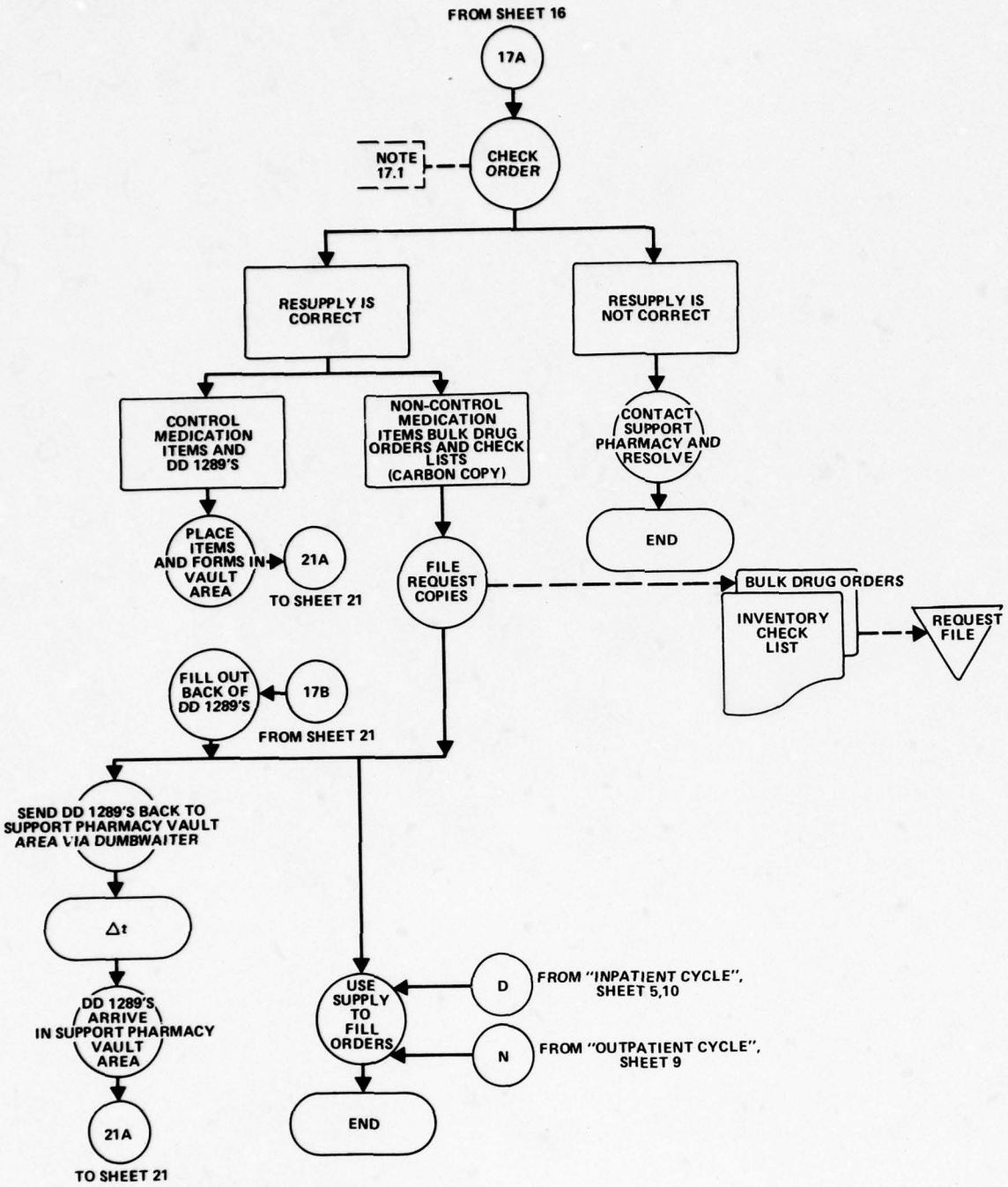
15.1 The DD Form 1289 is stamped on the front with a prescription number (which becomes the voucher number). It is also imprinted on the back with a proof of receipt stamp with blanks for the name of the person receiving the medication, the date & hour received, person dispensing, and the area where the medication as received. All DD 1289s for one satellite are processed at one time (one prescription at a time).

15.2 If the amount requested can't be dispensed for some reason, the filler will dispense as much as possible and adjust the amount requested to reflect the amount dispensed and initial this change.

15.3 When filling from the check list, a mark is drawn through the stock stock amount on the list after each item is dispensed. If filling from the Bulk Drug Order, a check mark is placed next to the amount requested unless amount dispensed is different from the amount requested; the amount actually dispensed is written next to the amount requested.



PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 16 OF 21 28 OCT 1975

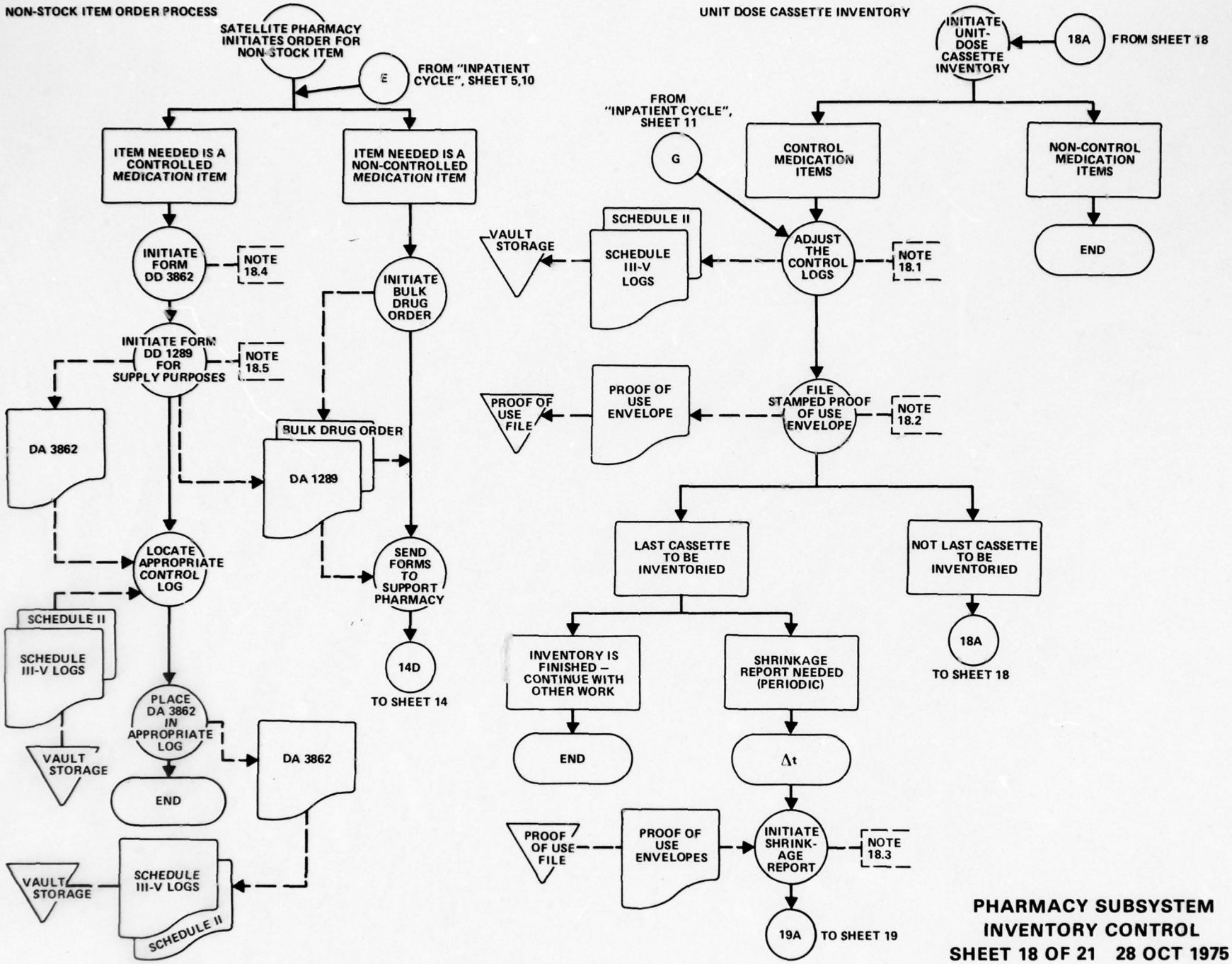


PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 17 OF 21 28 OCT 1975

NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 17

17.1 The order is checked to insure that it is for this pharmacy, the items delivered are what were ordered, no broken or damaged items are present, and items are in date.



PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 18 OF 21 28 OCT 1975

NOTES ON MANUAL INVENTORY CONTROL FLOW CHART

SHEET 18

18.1 Check by ward to determine how many of each controlled medication item were used and decrease the balance on hand by that number (e.g., if four patients on ward 4 received/consumed 2,1,1,2 capsules of Chloral Hydrate, the Chloral Hydrate balance would be decremented by 6 for ward 4). Also, the proof of use envelopes are numbered in sequence and these numbers are used as the voucher numbers (e.g., taking the previous example, for the voucher numbers you would use the notation 1200-1203 to voucher the decreased balance). The person adjusting the balance also enters his/her initials.

18.2 The data elements on the proof of use envelope are patient's name, bed number, prescriber's name, nurse who administers dosage, date given, and time given. If the dosage was contaminated or destroyed, note this, sign and witness same.

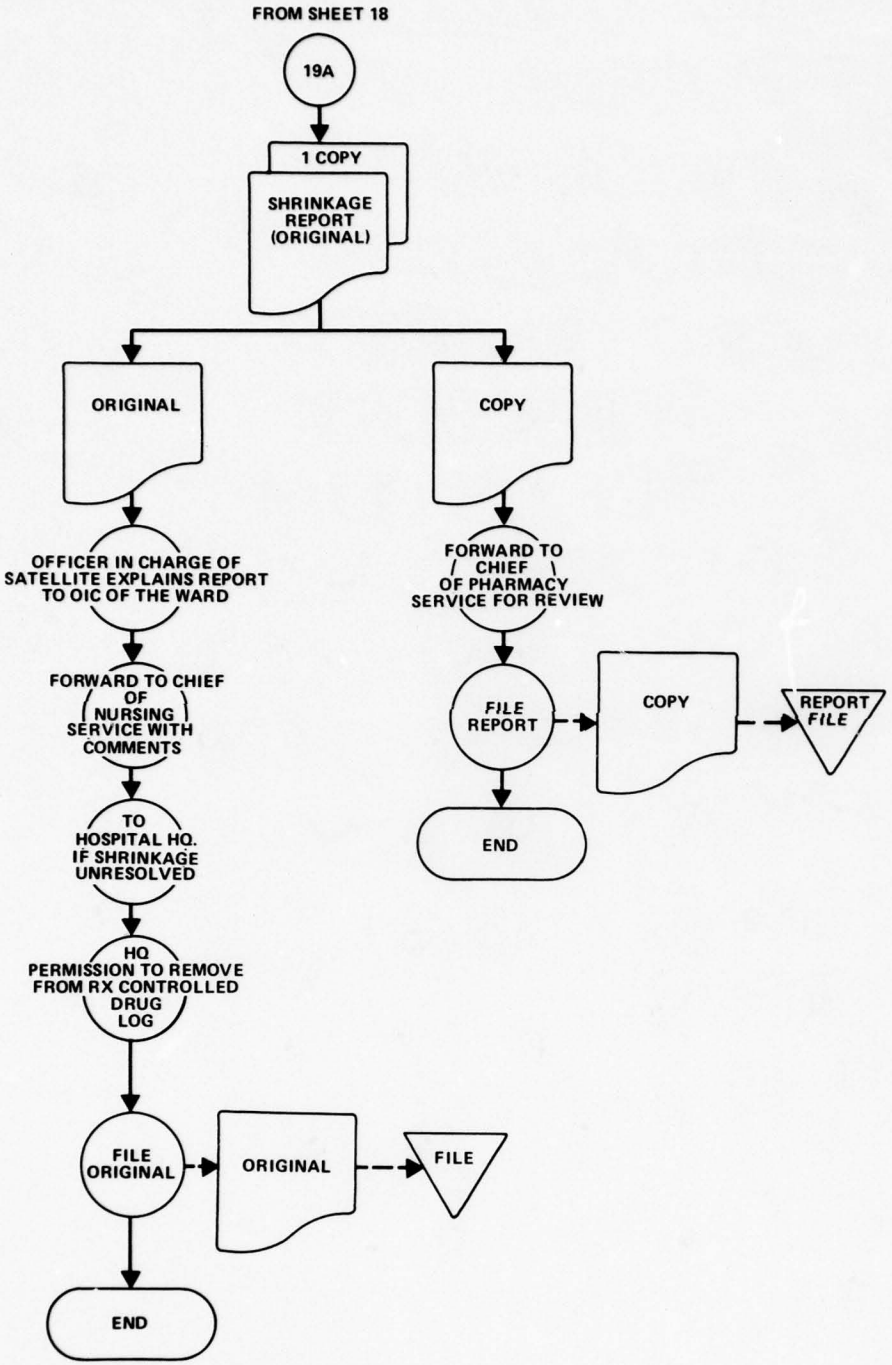
18.3 The Shrinkage Report lists those controlled medications used but not given to patient, such as dropped doses, etc. This report will have two copies, the original (going to the Chief, Nursing Service thru the OIC of the ward) and a copy (going to the Chief, Pharmacy Service).

18.4 The data elements placed on the DA Form 3862 are: medication name & strength, dosage form, reorder point, maximum stock level, date of transaction, quantity received, quantity dispensed, balance on hand, and person receiving or dispensing item.

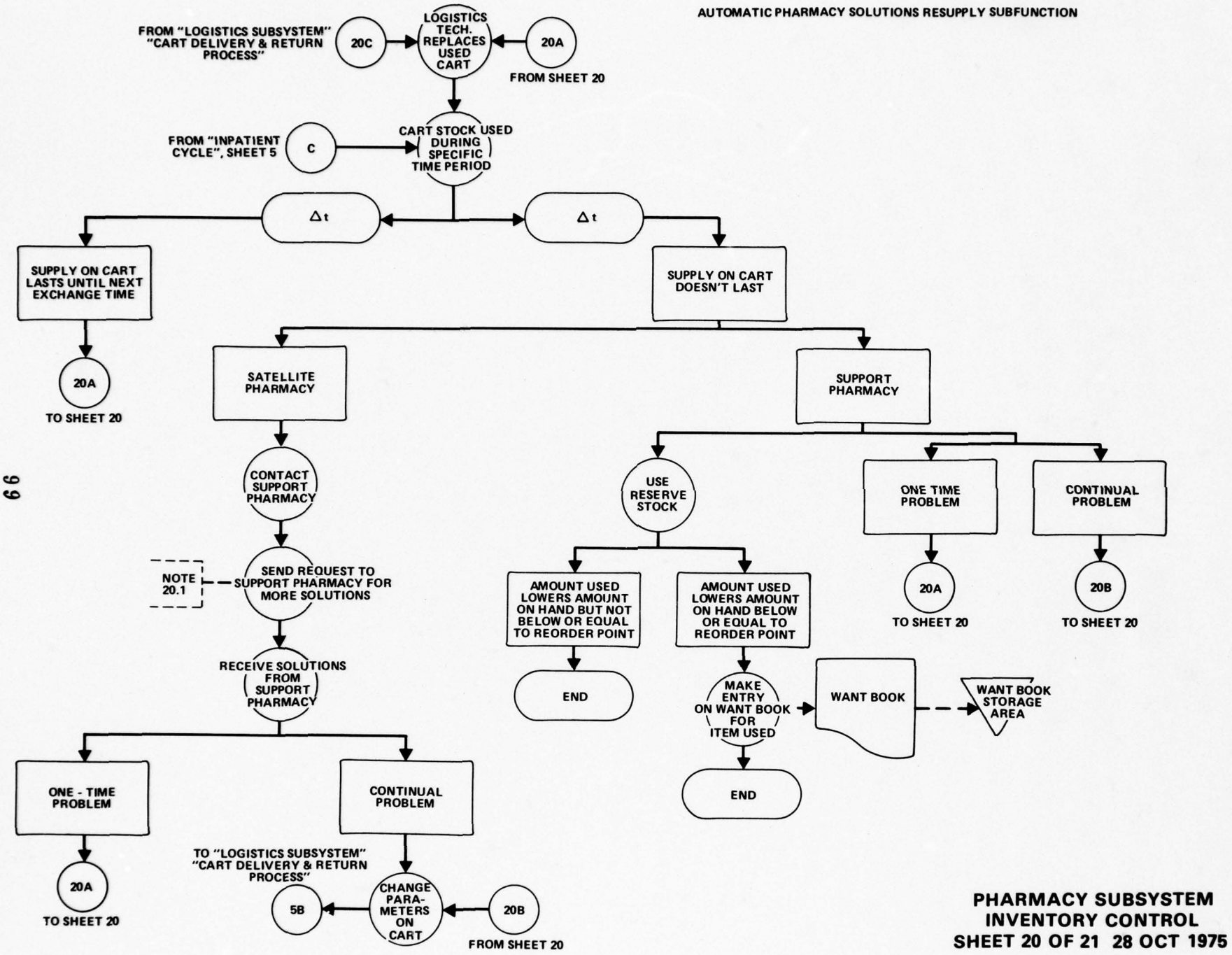
NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 18 (CONTINUED)

18.5 The DD Form 1289 is filled out as it would be for a prescription with the following changes: specific satellite is noted instead of a patient's name, pharmacist signs instead of a prescriber, no instructions are indicated on the form, and Rx symbol is lined out. The use of these data elements remain unchanged: medication name & strength, dosage form, and amount requested. Only one item can be ordered per DD 1289.



PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 19 OF 21 28 OCT 1975

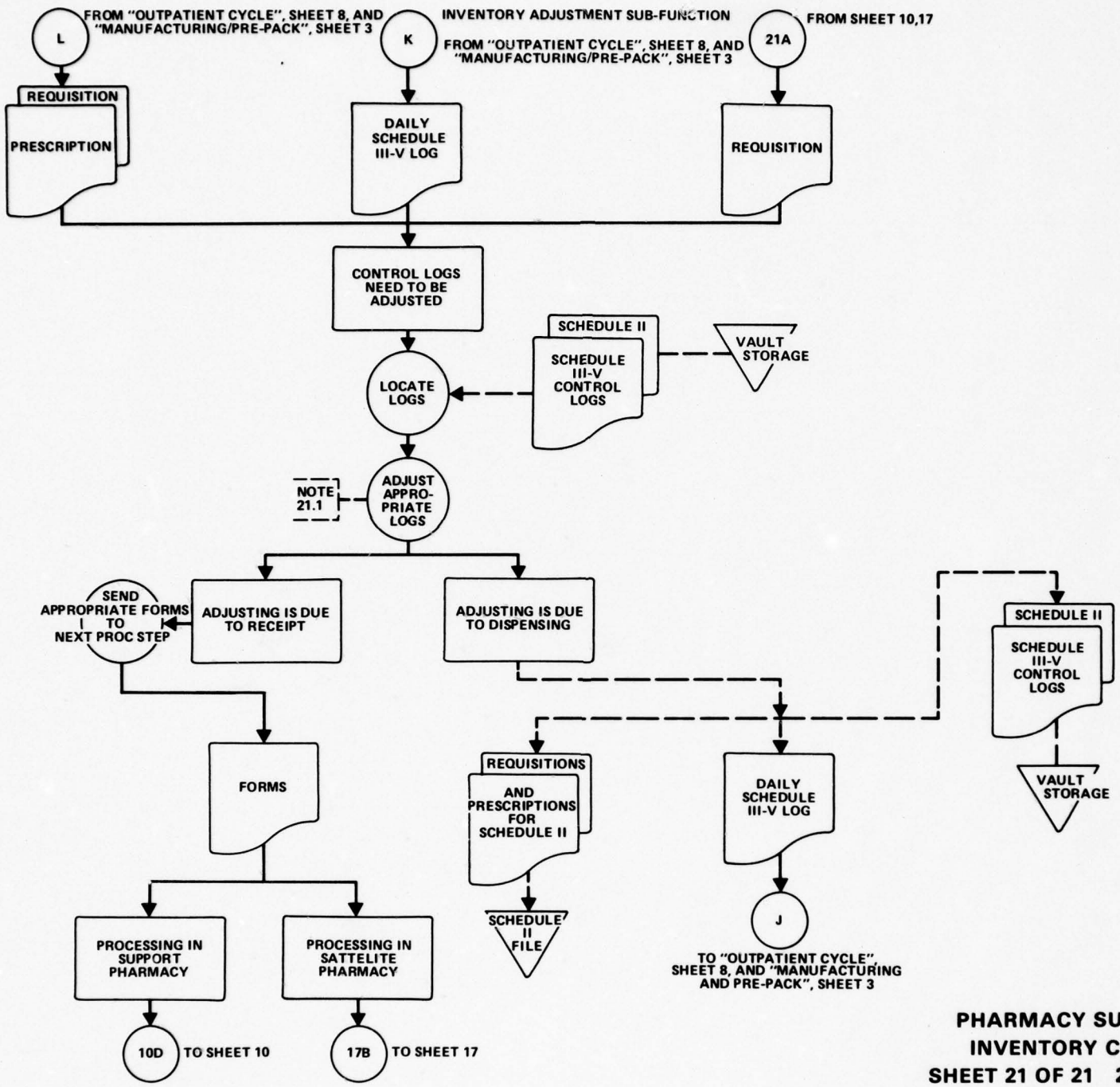


PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 20 OF 21 28 OCT 1975

NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 20

20.1 The request for additional sterile solutions from the support pharmacy will be made on a DA Form 8-236 (Bulk Drug Order). The data elements required are specific satellite pharmacy, the solution name, strength and/or amount per container, quantity required, and signature of person initiating the request. The order will be sent to the support pharmacy via the dumbwaiter and the solutions will be supplied to the satellite by the same route.

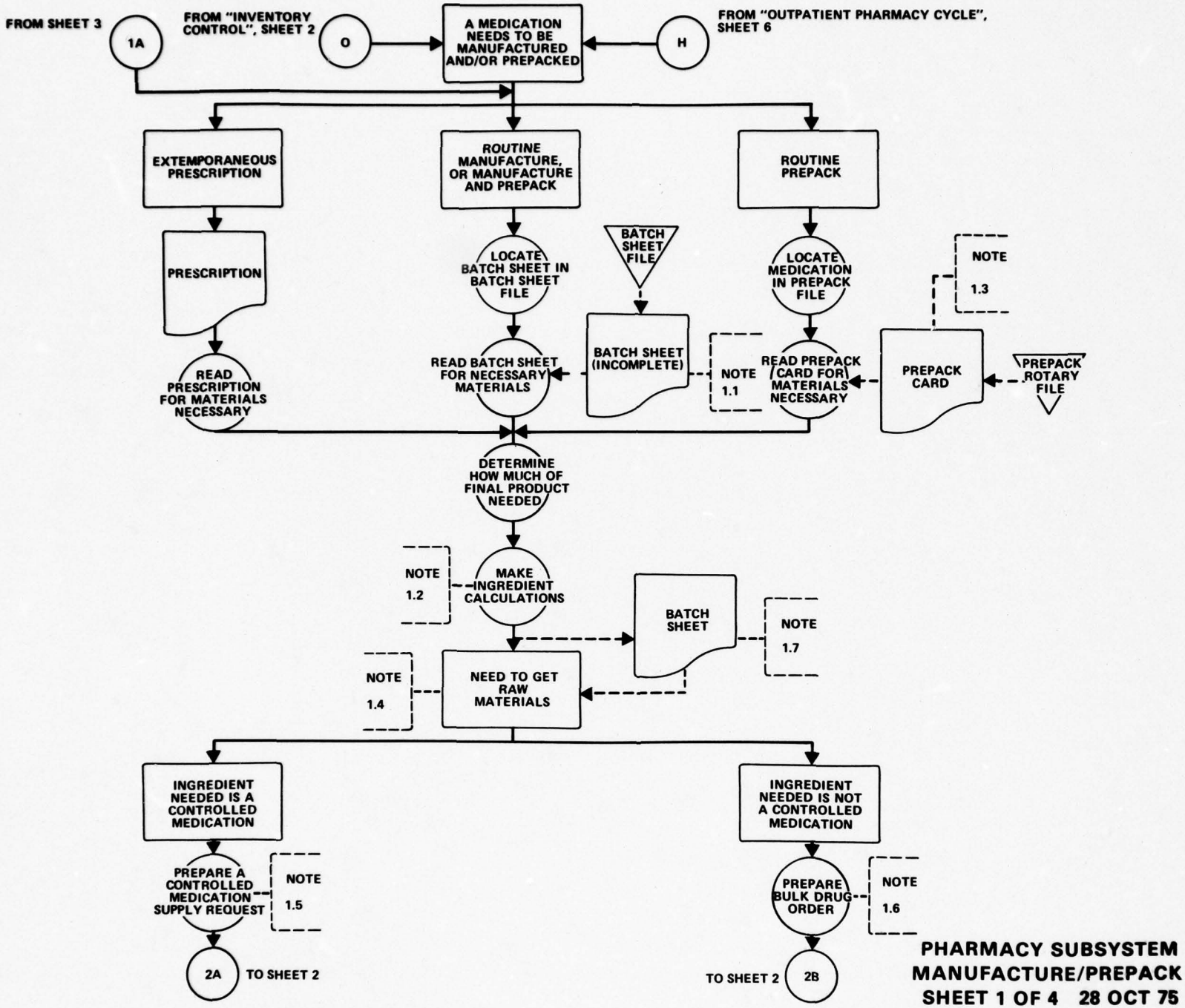


PHARMACY SUBSYSTEM
INVENTORY CONTROL
SHEET 21 OF 21 28 OCT 1975

NOTES ON MANUAL INVENTORY CONTROL FLOW CHARTS

SHEET 21

21.1 In adjusting the logs, the necessary information is placed in the appropriate columns on the DA Form 3862. The balance on hand is incremented or decremented by the amount placed in the credit or debit column as is appropriate.



PHARMACY SUBSYSTEM
MANUFACTURE/PREPACK
SHEET 1 OF 4 28 OCT 75

NOTES ON MANUFACTURING/PREPACKING FLOW CHARTS

SHEET 1

1.1 The Master Batch Sheet contains the names of all the ingredients necessary to make the finished product. It also contains the formulas for making the product. The data elements permanent to the Batch Sheet are; product name, example amount, ingredients' names with example amounts, compounding instructions, an example label, and the amount & type of final containers. The data elements added during compounding include the following: manufacturer's name & lot number of ingredients being used, amount of ingredient used, initials of person procuring ingredients, initials of person verifying ingredients used, total amount of product prepared, and sample of the the label affixed to containers of the finished product. Batch sheets are copied by xerographic techniques, not hand copied.

1.2 After determining the amount of the final product wanted, a ratio is set up for use in calculating the amount of each ingredient necessary.

1.3 The data elements on this prepack card are: medication name and strength, amount per container, and type & size of container to be used. The file is likely to be a rotary file.

1.4 This will be both ingredients for compounding and containers for packaging.

1.5 The Controlled Medication Supply Request is a DD Form 1289 with the "Rx" crossed out. It contains similar data elements which include the following:

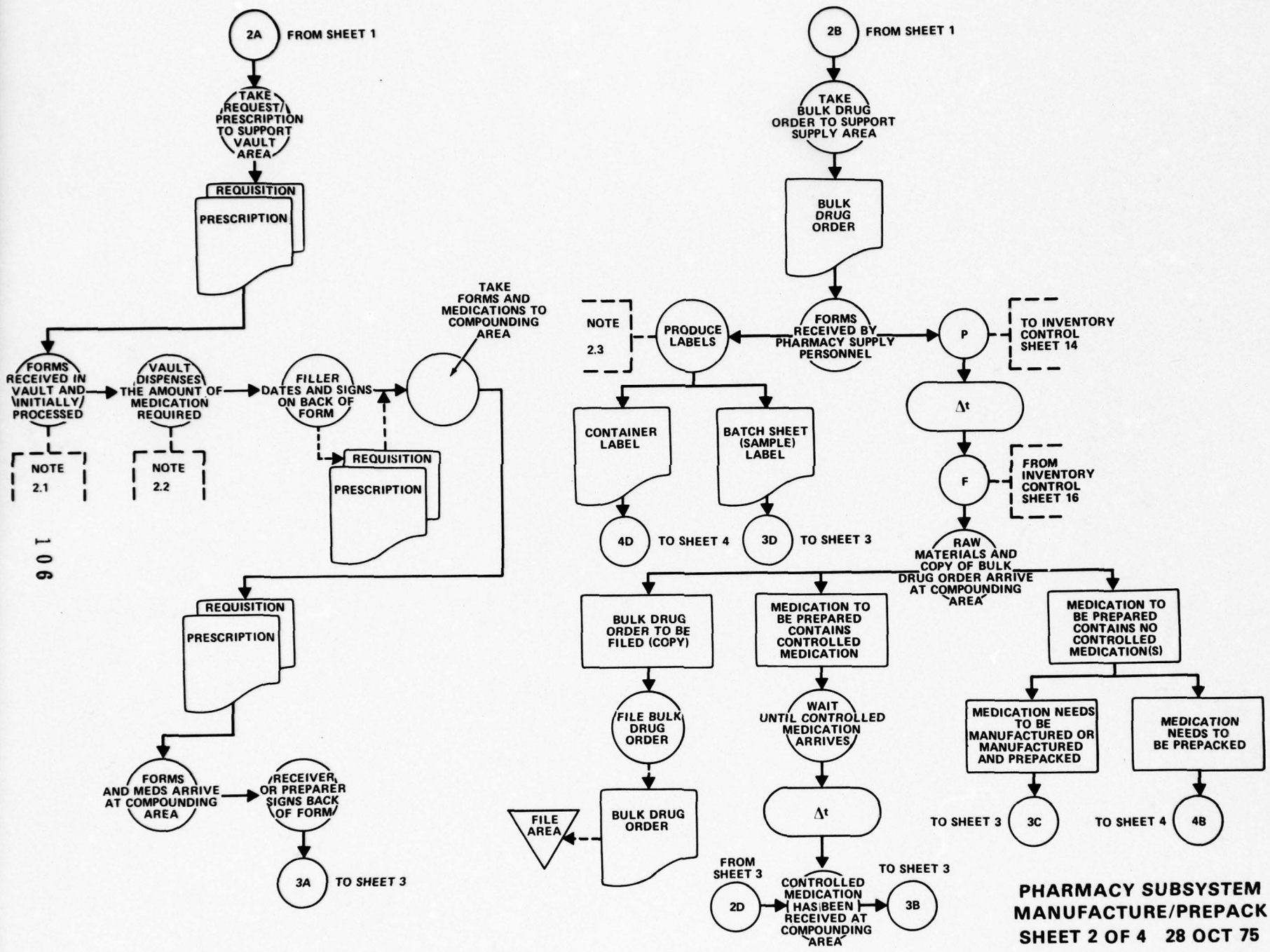
NOTES ON MANUFACTURING/PREPACKAGING FLOW CHARTS

SHEET 1 (CONTINUED)

area to which medication is going (i.e., Manufacture/Prepack), medication name, strength, amount, and pharmacist ordering the medication. This is a single item requisition. Only one medication can be ordered per form. This form is used for routine manufacturing/prepacking and specific prescriptions are used as requisitions for an extemporaneous compound. If the requisition is made from a Batch Sheet, the original master Batch Sheet remains in the compounding administrative area.

1.6 The Bulk Drug Order (DA Form 8-236) has the following data elements: the specific area for delivery (i.e., Manufacture/Prepack), date of order, medication name, medication strength, dosage form, unit of issue, quantity requested, and signature of area supervisor. This is a 3-copy form. If the Bulk Drug Order is written from a Batch Sheet, the original Batch Sheet always stays in the compounding area.

1.7 The original copy of the Batch Sheet is held in the administrative area, while a Xerox copy accompanies the preparation(s) until the completion of processing.



PHARMACY SUBSYSTEM
MANUFACTURE/PREPACK
SHEET 2 OF 4 28 OCT 75

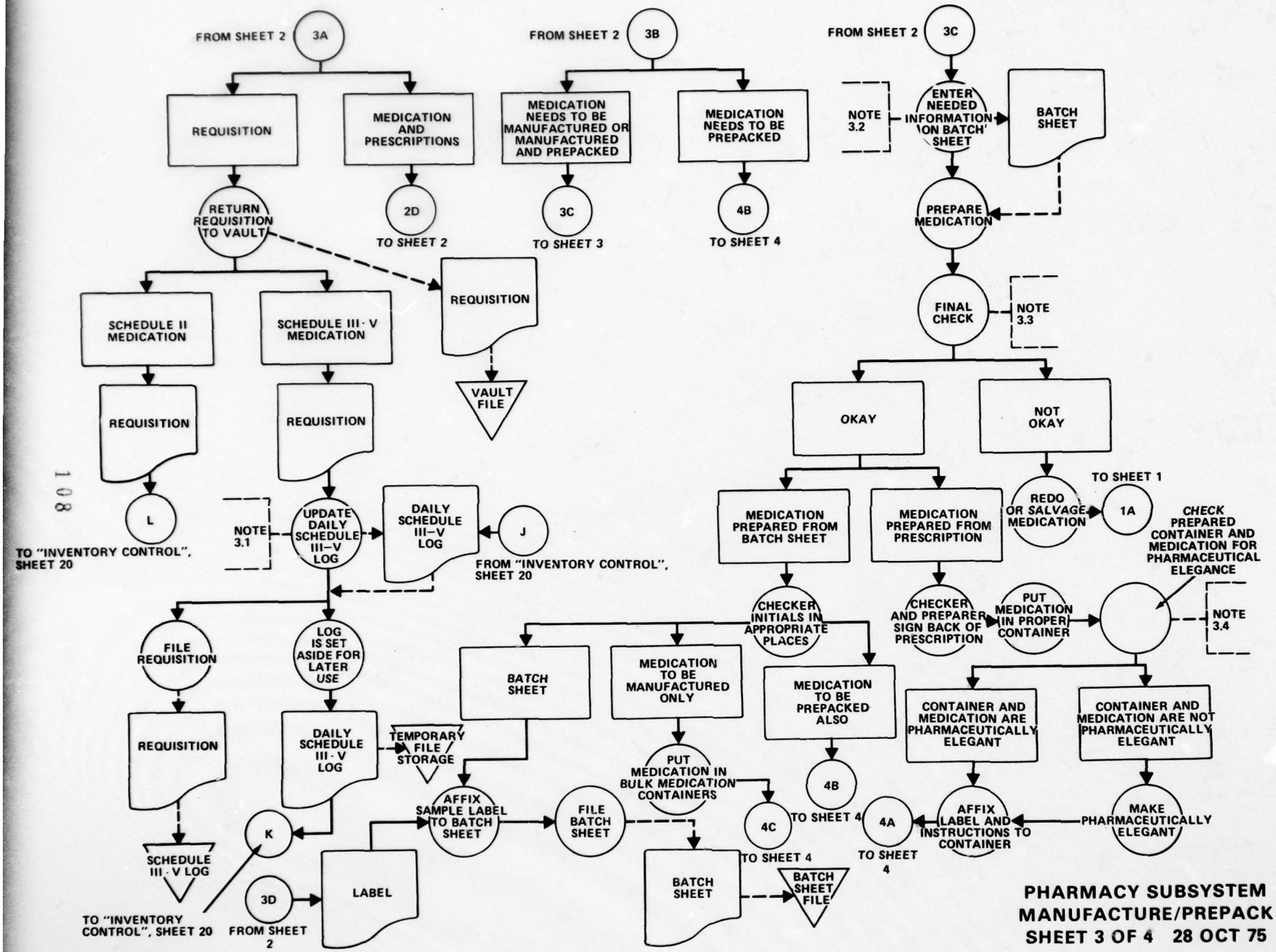
NOTES ON MANUFACTURING/PREPACKING FLOW CHARTS

SHEET 2

2.1 If the form is an actual prescription, the prescription number is used as the voucher number. If the form is a requisition, it will be stamped with the appropriate numbering machine (Schedule II or Schedule III - V machine). At this time the Controlled Medication Supply Requests are also stamped on the back with a proof of receipt stamp. The receipt stamp has blanks for the following information: (1) name of person to make the preparation, (2) area of receipt, (3) date of receipt from vault and, (4) name of filler.

2.2 If medication is for an extemporaneously prepared prescription, the filler will accomplish the inventory updating at this time either in the Daily Schedule III-V Log or in the Schedule II Log. If entered in the Schedule II Log, the filler also notes that voucher was a prescription from a specific satellite pharmacy, so that an audit trail is established to support the formal controlled drug inventory which is made monthly.

2.3 The information on the labels includes: medication name and strength, amount per container, pharmacy lot number, expiration date, and any instructions determined necessary (for stockage and dispensing from MOD cabinet).


FROM SHEET 2
3A
FROM SHEET 2
3B
FROM SHEET 2
3C
REQUISITION
MEDICATION AND PRESCRIPTIONS
MEDICATION NEEDS TO BE MANUFACTURED OR MANUFACTURED AND PREPACKED
MEDICATION NEEDS TO BE PREPACKED
NOTE 3.2
ENTER NEEDED INFORMATION ON BATCH SHEET
BATCH SHEET
RETURN REQUISITION TO VAULT
2D
TO SHEET 2
3C
TO SHEET 3
4B
TO SHEET 4
PREPARE MEDICATION
SCHEDULE II MEDICATION
SCHEDULE III-V MEDICATION
REQUISITION
FINAL CHECK
NOTE 3.3
VAULT FILE
REQUISITION
REQUISITION
OKAY
NOT OKAY
TO SHEET 1
1A
L
TO "INVENTORY CONTROL", SHEET 20
NOTE 3.1
UPDATE DAILY SCHEDULE III-V LOG
DAILY SCHEDULE III-V LOG
J
FROM "INVENTORY CONTROL", SHEET 20
MEDICATION PREPARED FROM BATCH SHEET
MEDICATION PREPARED FROM PRESCRIPTION
REDO OR SALVAGE MEDICATION
CHECK PREPARED CONTAINER AND MEDICATION FOR PHARMACEUTICAL ELEGANCE
NOTE 3.4
FILE REQUISITION
LOG IS SET ASIDE FOR LATER USE
CHECKER INITIALS IN APPROPRIATE PLACES
CHECKER AND PREPARER SIGN BACK OF PRESCRIPTION
PUT MEDICATION IN PROPER CONTAINER
BATCH SHEET
MEDICATION TO BE MANUFACTURED ONLY
MEDICATION TO BE PREPACKED ALSO
CONTAINER AND MEDICATION ARE PHARMACEUTICALLY ELEGANT
CONTAINER AND MEDICATION ARE NOT PHARMACEUTICALLY ELEGANT
REQUISITION
DAILY SCHEDULE III-V LOG
TEMPORARY FILE STORAGE
PUT MEDICATION IN BULK MEDICATION CONTAINERS
4B
TO SHEET 4
AFFIX SAMPLE LABEL TO BATCH SHEET
FILE BATCH SHEET
4C
TO SHEET 4
4A
TO SHEET 4
AFFIX LABEL AND INSTRUCTIONS TO CONTAINER
MAKE PHARMACEUTICALLY ELEGANT
K
SCHEDULE III-V LOG
TO "INVENTORY CONTROL", SHEET 20
3D
FROM SHEET 2
LABEL
BATCH SHEET
BATCH SHEET FILE
PHARMACY SUBSYSTEM
MANUFACTURE/PREPACK
SHEET 3 OF 4 28 OCT 75

NOTES ON MANUFACTURING/PREPACKING FLOW CHARTS

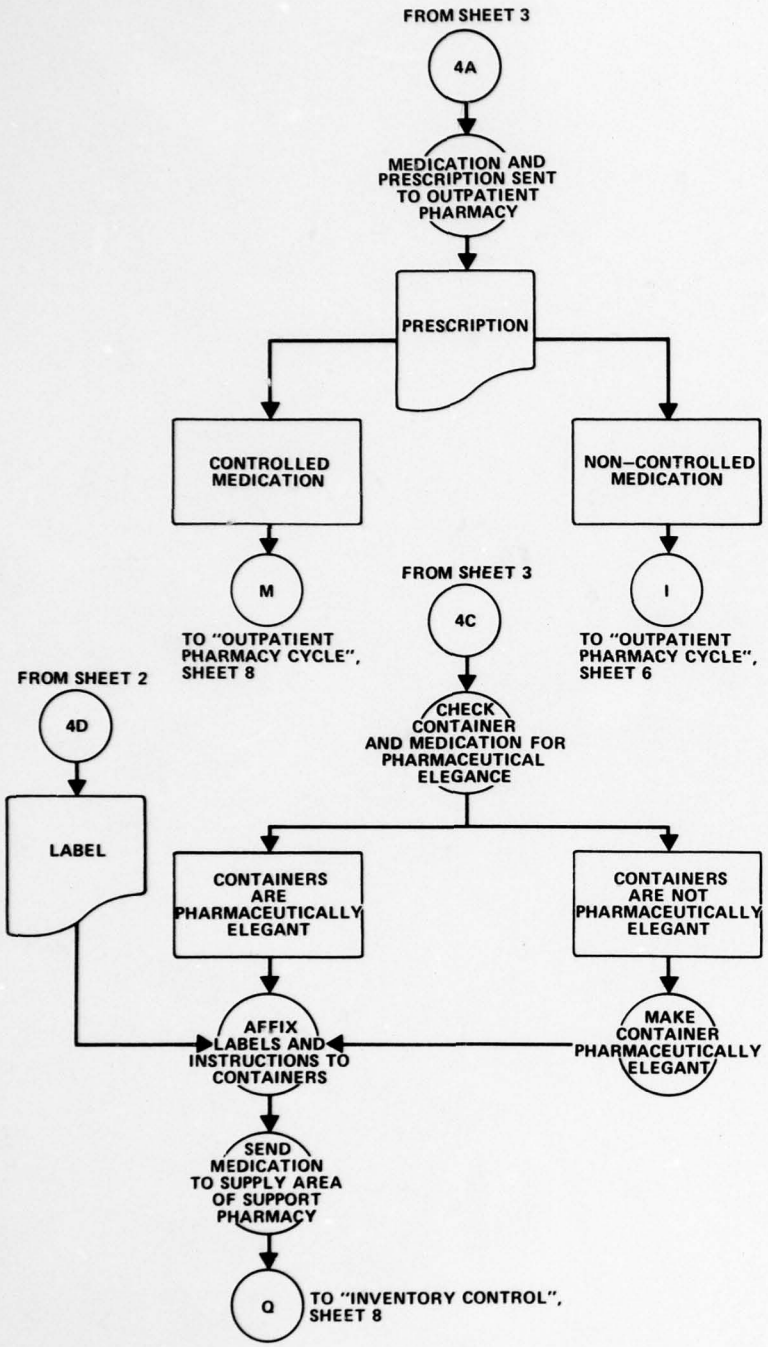
SHEET 3

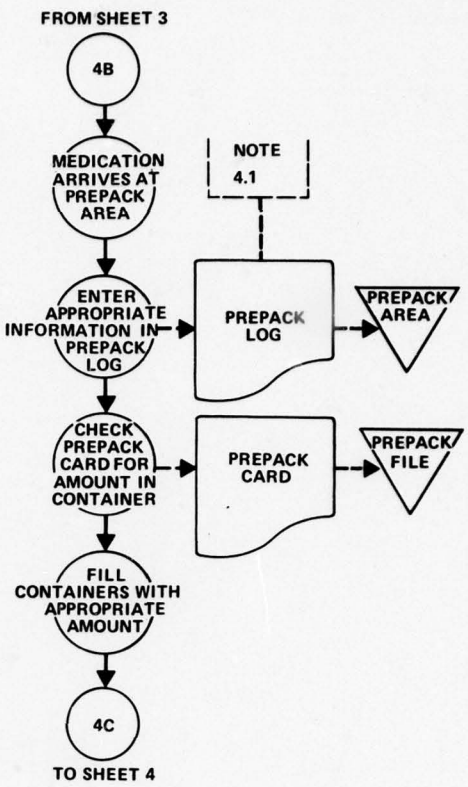
3.1 The data elements listed in the log are: prescription/voucher number, name and strength of medication, amount dispensed, and date dispensed. This log is totaled by individual medication at either the beginning or ending of each work day for posting to the controlled medication log for all Schedule III-V substances.

3.2 The information entered includes: initials of preparer, the actual amount of each ingredient to be used, and the manufacturer & lot number of each ingredient to be used.

3.3 The medication is checked against the Batch Sheet or prescription. The check must be made by a registered Pharmacist.

3.4 Make sure the container is clean and not slick or slippery and that the contained product is clear, clean, and evenly suspended or distributed as appropriate for the specific product.



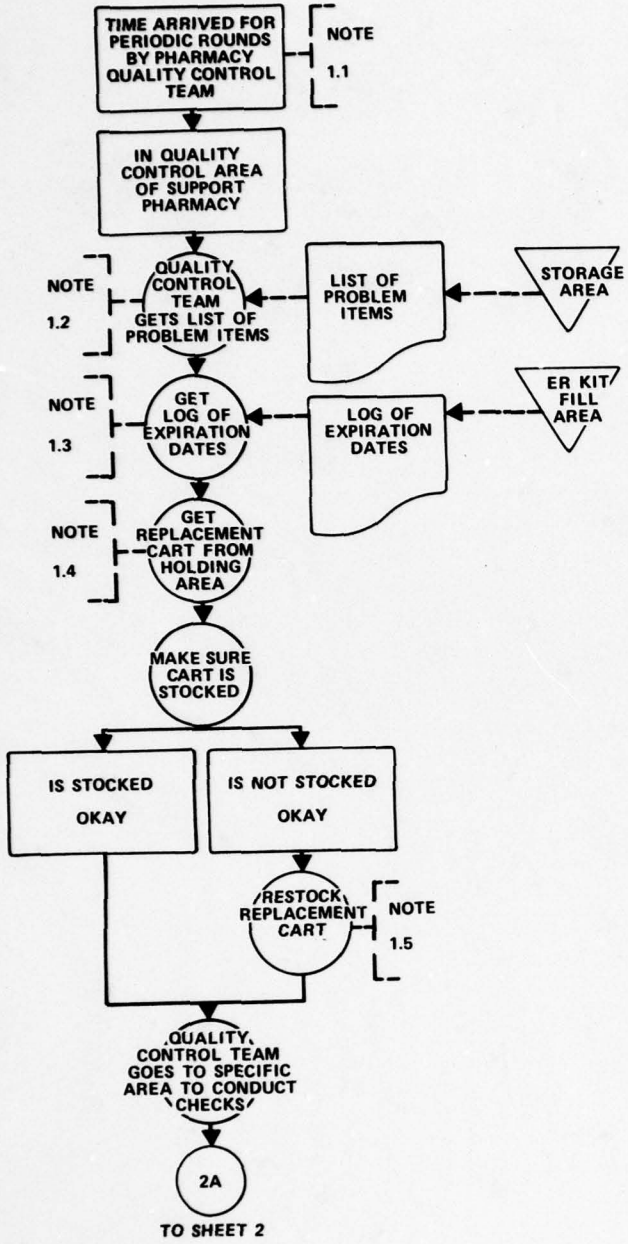


PHARMACY SUBSYSTEM
MANUFACTURE/PREPACK
SHEET 4 OF 4 28 OCT 75

NOTES ON MANUFACTURING/PREPACKING FLOW CHARTS

SHEET 4

4.1 The information routinely kept in the prepack log includes: medication name & strength, amount per container, number of containers, pharmacy prepack or manufacturing lot number, or (if not manufactured by the pharmacy) manufacturer and manufacturer's lot number. The prepack log will also contain a sample of the label on the prepacked containers.



PHARMACY SUBSYSTEM
PHARMACY QUALITY CONTROL
SHEET 1 OF 5 28 OCT 75

NOTES ON PHARMACY QUALITY CONTROL FLOW CHARTS

SHEET 1

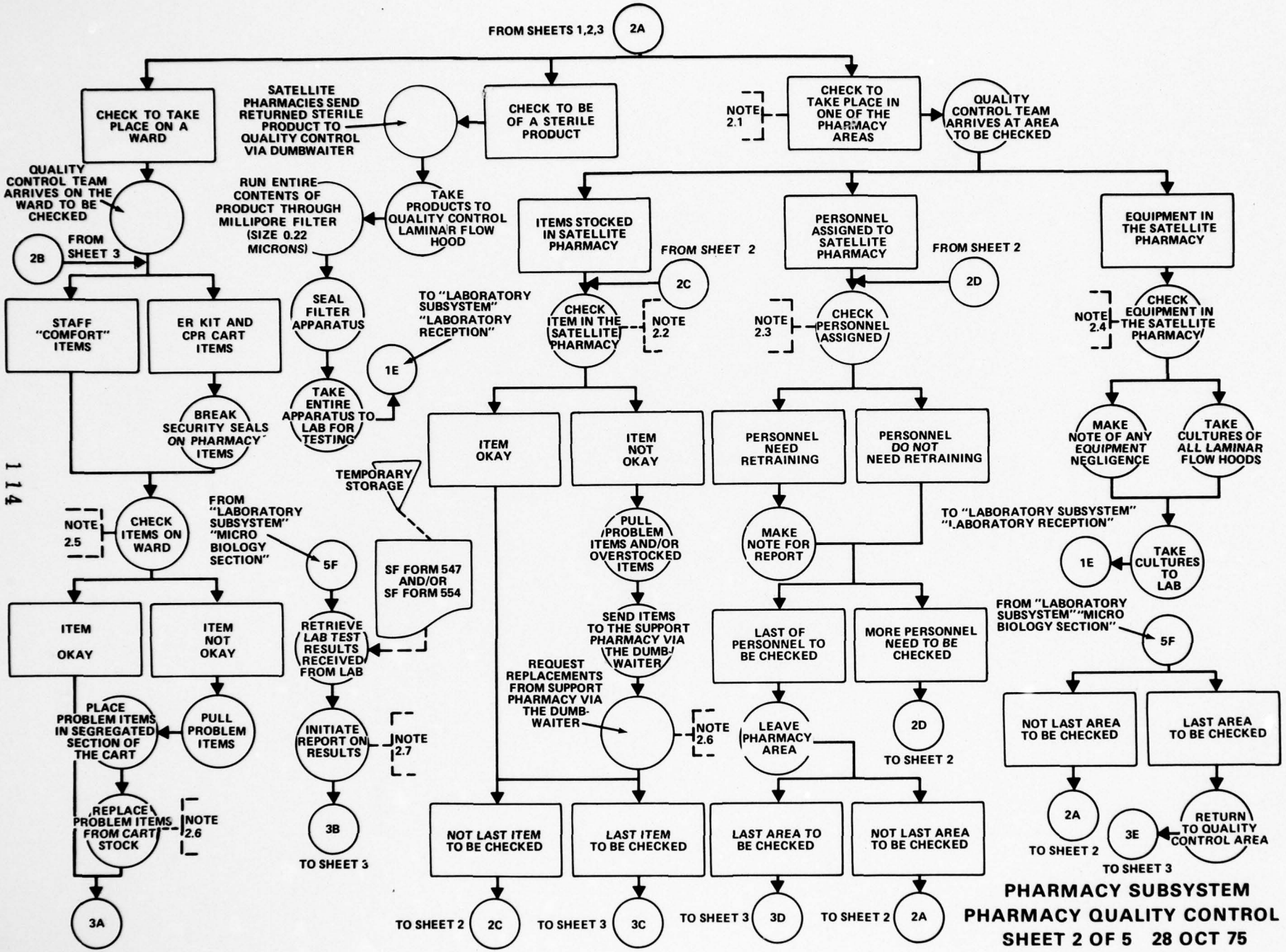
1.1 These rounds are conducted by the pharmacy for two major reasons: (1) inspection for items which are past expiration date, to be suspended, or all on recall, and (2) surveillance of personnel in the pharmacy for retraining requirements as indicated by dispensing techniques. The Quality Control team is also responsible for filling of the ER kits and the CPR Carts, and for the preparation of training programs to be used in retraining to include contents (POI), type, and supervision of such retraining of personnel. The Quality Control team members will continually receive special training in the determination of problem items (items that might be defective for patient use).

1.2 This list contains items which are to be held in suspense, are past expiration date, or are on recalled status.

1.3 This log contains the expiration dates of all dated items currently located in the ER kits or CPR Carts by kit or cart numbers and location.

1.4 This cart is also used to replace emergency items used from the CPR Cart's supply.

1.5 These items are considered to be in inventory until dispensed as a replacement (a trade in the case of a suspended or expired item). A note on the Supply Visisble File will denote how much is on the replacement cart.



PHARMACY SUBSYSTEM
PHARMACY QUALITY CONTROL
SHEET 2 OF 5 28 OCT 75

NOTES ON PHARMACY QUALITY CONTROL FLOW CHARTS

SHEET 2

2.1 These areas will be the satellite pharmacies and will include the support pharmacy, Forest Glen pharmacy, the Manufacturing/Prepacking area, and the Quality Control area.

2.2 In addition to the normal checks, the stock levels, at each specific satellite pharmacy will routinely be checked in order to prevent over-stocking at any satellite.

2.3 The personnel are monitored for Aseptic technique and poor practices while performing their jobs. Military and civilian personnel, registered pharmacists and technicians are all routinely monitored.

2.4 All equipment is checked for cleanliness, all Laminar flow hoods are cultured for growth, and all equipment is checked for proper upkeep. Items will be checked for required preventive maintenance, and date of last performed preventive maintenance will be checked. Balances be will calibrated.

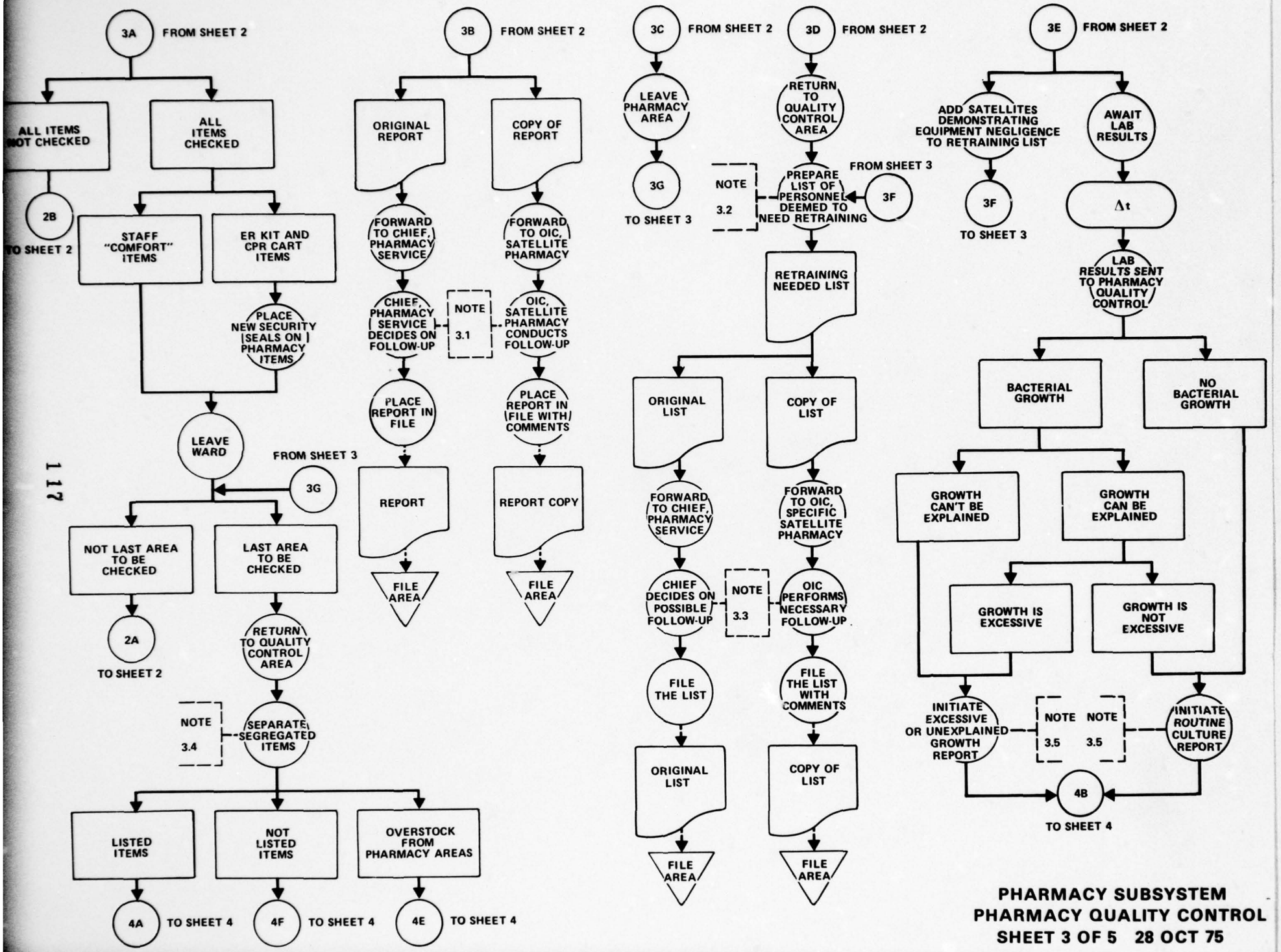
2.5 This check is to see if items are on the list of problem items or in the expiration log as due to soon go out of date. If the item is neither on the list or in the log, check for unexpected discoloration or unexpected precipitate, check for unlogged items which have an expiration date (if the item has an expiration date and has not been logged, but is still in-date, place the item in the log; if an item is out-of-date, pull the item), damaged containers, bad labeling or no labeling, and container contamination.

NOTES ON PHARMACY QUALITY CONTROL FLOW CHARTS

SHEET 2 (CONTINUED)

2.6 This is a one for one trade that is documented in the Quality Control area later, regardless of item traded. If replacement item is dated, the expiration date, item, and location are entered into the expiration log. The location would be the ward if item is a replacment of ward stock "comfort", or CPR Cart item, and would be an ER kit number if the item is used as an ER kit replacement item.

2.7 This report will be by satellite pharmacy and will contain information concerning any bacterial growth. There will be two copies of the report: one to the Chief, Pharmacy Service and one to the officer in charge (OIC) of the specific satellite. The report will list the person who prepared the suspect sterile product.



PHARMACY SUBSYSTEM
PHARMACY QUALITY CONTROL
SHEET 3 OF 5 28 OCT 75

NOTES ON PHARMACY QUALITY CONTROL FLOW CHARTS

SHEET 3

3.1 The Chief, Pharmacy Service, after communication with the OIC of the satellite, will decide on the type of follow-up he believes is necessary and relay that decision to the OIC of the satellite pharmacy who will conduct the follow-up. Satellite OIC's are encouraged to conduct routine continuing education programs and retraining sessions.

3.2 This list contains the names of all personnel who have been determined to require retraining. The names will be listed by specific satellite pharmacy. The list will be prepared with one original and as many copies as are needed (one copy per each satellite which has a person(s) requiring retraining). The OIC of each satellite pharmacy will signify compliance by signing the list and by stating that required training information and on the training (OJT) has been given to person in question. This list job will also be a part of the documentation in regards to possible future personnel actions. Also, specific satellites failing to service or use equipment properly will follow a similar procedure.

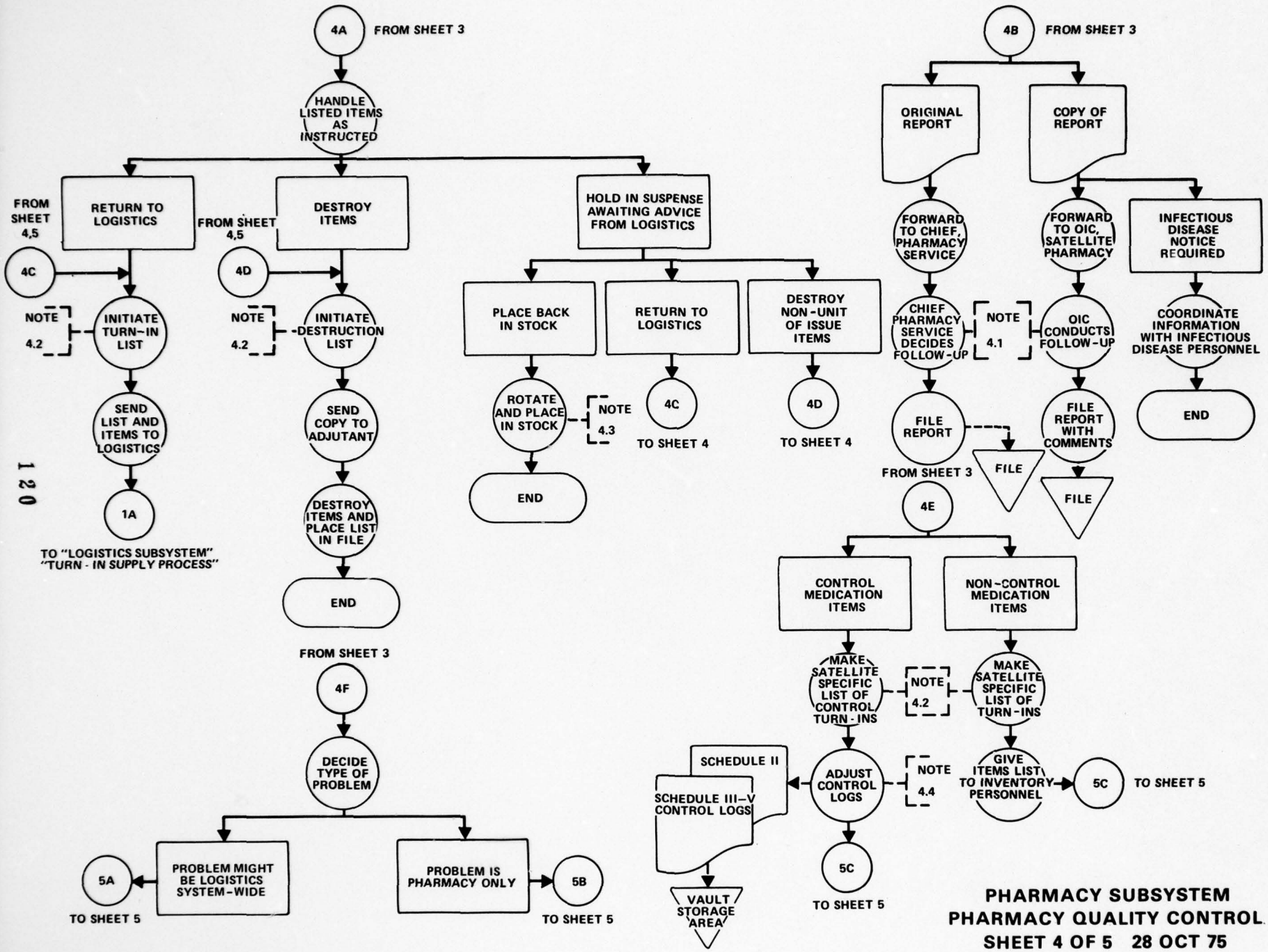
3.3 The Chief decides if personnel actions are required (such as change of MOS, complete retraining, etc). The officer in charge (OIC) makes sure appropriate training information is made available to personnel and takes an active part in training and continued close supervision of this individual.

3.4 These are the problem items pulled at the checked area and placed on the replacement cart, or the overstock from satellite pharmacy areas.

NOTES ON PHARMACY QUALITY CONTROL FLOW CHARTS

SHEET 3 (CONTINUED)

3.5 This report lists the results of the cultures, and the problems in each satellite by the individual satellite. The first half will list any unexplained growths or excessive explained growth (i.e., normal flora bacterial growth). The second half will deal with routine cultures or those cultures bearing no growth or little explained growth. There is one original report and as many copies as are needed to insure that the OIC of each satellite pharmacy concerned receives one copy. Coordination will routinely be accomplished with ward clinical personnel whenever a problem report in received. Further coordination with infectious disease personnel will also be accomplished as appropriate.


4A
FROM SHEET 3
HANDLE LISTED ITEMS AS INSTRUCTED
FROM SHEET 4,5
RETURN TO LOGISTICS
FROM SHEET 4,5
DESTROY ITEMS
HOLD IN SUSPENSE AWAITING ADVICE FROM LOGISTICS
4C
4D
NOTE 4.2
INITIATE TURN-IN LIST
NOTE 4.2
INITIATE DESTRUCTION LIST
PLACE BACK IN STOCK
RETURN TO LOGISTICS
DESTROY NON-UNIT OF ISSUE ITEMS
SEND LIST AND ITEMS TO LOGISTICS
SEND COPY TO ADJUTANT
ROTATE AND PLACE IN STOCK
NOTE 4.3
4C
4D
1A
TO "LOGISTICS SUBSYSTEM" "TURN - IN SUPPLY PROCESS"
DESTROY ITEMS AND PLACE LIST IN FILE
END
END
TO SHEET 4
TO SHEET 4
120
FROM SHEET 3
4F
DECIDE TYPE OF PROBLEM
PROBLEM MIGHT BE LOGISTICS SYSTEM-WIDE
PROBLEM IS PHARMACY ONLY
5A
5B
TO SHEET 5
TO SHEET 5
4B
FROM SHEET 3
ORIGINAL REPORT
COPY OF REPORT
FORWARD TO CHIEF, PHARMACY SERVICE
FORWARD TO OIC, SATELLITE PHARMACY
INFECTIOUS DISEASE NOTICE REQUIRED
CHIEF PHARMACY SERVICE DECIDES FOLLOW-UP
NOTE 4.1
OIC CONDUCTS FOLLOW-UP
COORDINATE INFORMATION WITH INFECTIOUS DISEASE PERSONNEL
FILE REPORT
FILE REPORT WITH COMMENTS
END
FROM SHEET 3
FILE
FILE
4E
CONTROL MEDICATION ITEMS
NON-CONTROL MEDICATION ITEMS
MAKE SATELLITE SPECIFIC LIST OF CONTROL TURN-INS
NOTE 4.2
MAKE SATELLITE SPECIFIC LIST OF TURN-INS
SCHEDULE II
SCHEDULE III-V CONTROL LOGS
ADJUST CONTROL LOGS
NOTE 4.4
GIVE ITEMS LIST TO INVENTORY PERSONNEL
5C
TO SHEET 5
5C
TO SHEET 5
VAULT STORAGE AREA
PHARMACY SUBSYSTEM
PHARMACY QUALITY CONTROL
SHEET 4 OF 5 28 OCT 75

NOTES ON PHARMACY QUALITY CONTROL FLOW CHARTS

SHEET 4

4.1 The Chief, Pharmacy Service decides what follow-up action is to be taken (retraining, etc.) and contacts the OIC of the satellite in question to inform the OIC of his/her decision. The OIC verifies that he/she conducted the follow-up action by documenting such on his/her copy of the report and forwarding same to the Chief, Pharmacy Service.

4.2 The list is made on a DA 3161 if a controlled medication is involved, turn-in is to Logistics, or items are to be destroyed. If it is non-controlled drug from a satellite and the support pharmacy, a Bulk Drug Order is used. No matter which form is used it is annotated as a turn-in. When controlled medication is involved, the document number is used as the voucher number. In the case of a turn-in, the receiving area keeps the original and the losing area gets a copy. When items are to be destroyed, the Adjutant gets a copy for headquarters approval prior to the destruction and the original of this approval goes to the pharmacy file (signals destruction) and is retained in the files

4.3 Stock is rotated so that first in is first out (FIFO) with the exception of dated items which must be rotated to be dispensed prior to expiration date if possible. Also, in this case, expiration dates are extended to coincide with information relayed by Logistics to the pharmacy (based on Bureau of Biologics, FDA, tests requested by USAMMA/DPSC).

NOTES ON PHARMACY QUALITY CONTROL FLOW CHARTS

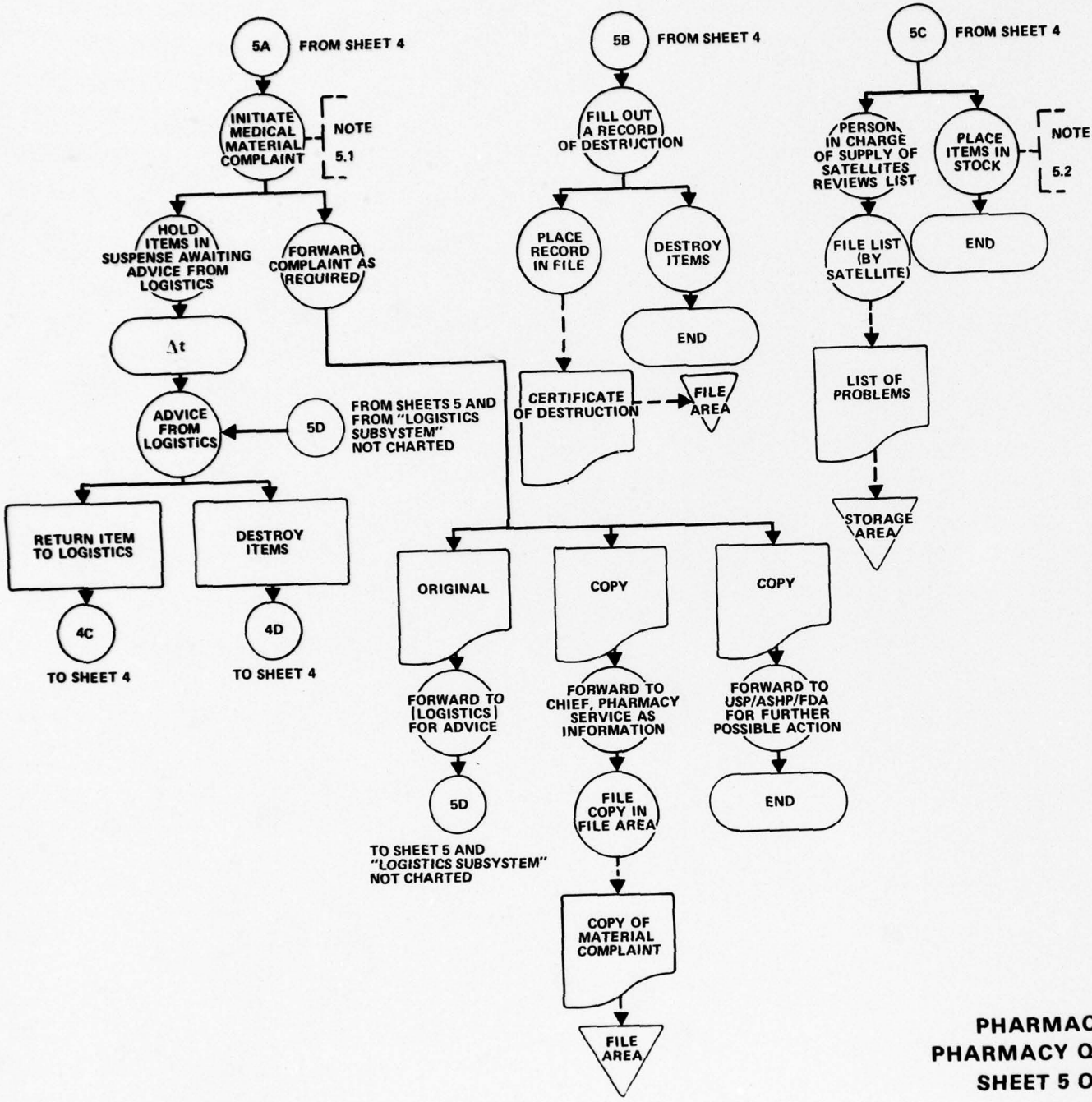
SHEET 4 (CONTINUED)

4.4 The entries are made on a DA form 3862. Those entries are date received, quantity received, voucher number, and initials of person entering information.

AD-A045 458 ARMY TRIMIS AGENCY WASHINGTON D C F/G 6/5
HEALTH CARE INFORMATION. PROCESS CONDITION-ACTION DIAGRAM FLOWC--ETC(U)
JAN 77 K SCHANK, F BOCK
UNCLASSIFIED TRIMIS-ARMY-TR-1 NL

8 OF 10
AD A045458





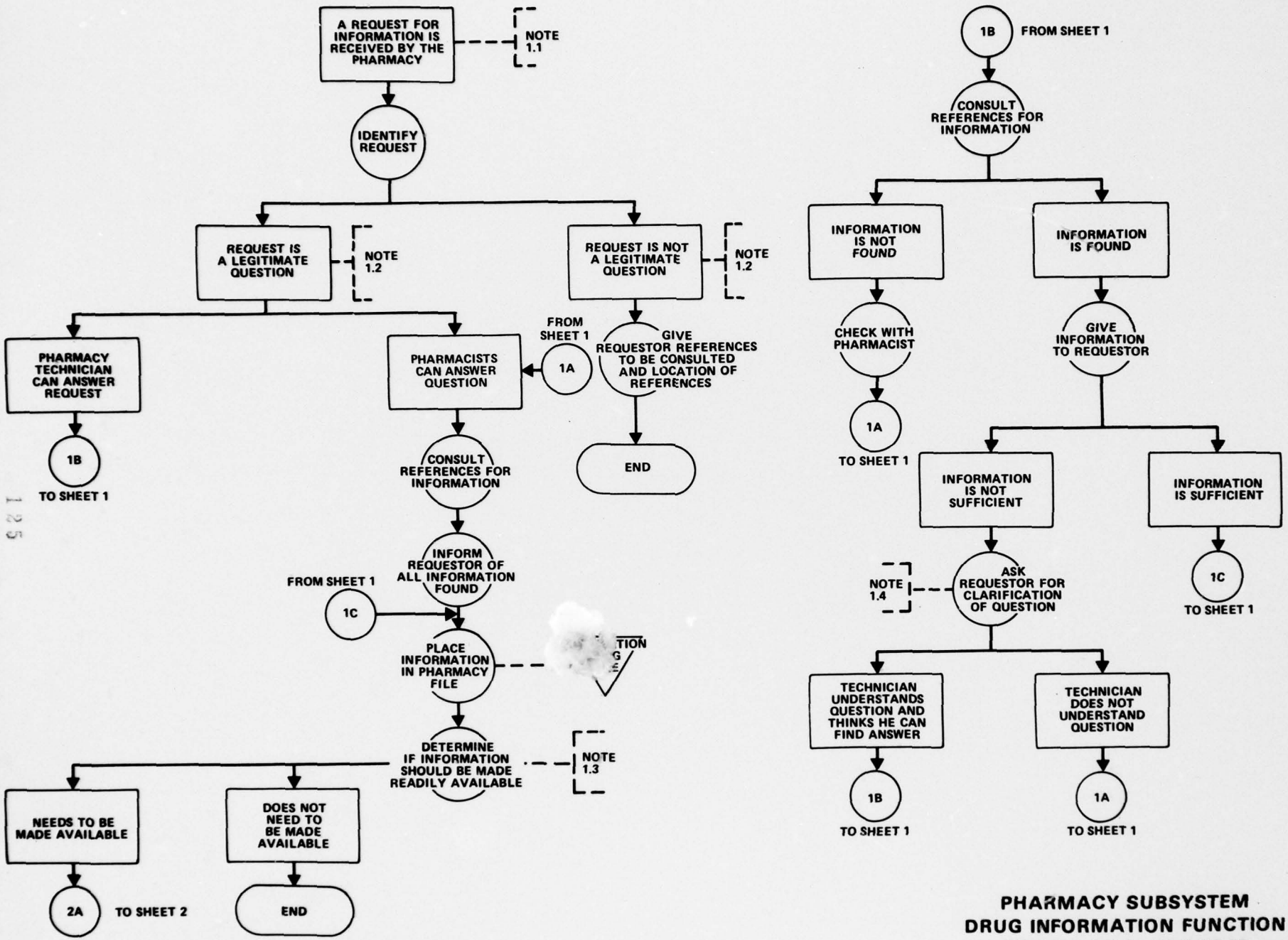
PHARMACY SUBSYSTEM
PHARMACY QUALITY CONTROL
SHEET 5 OF 5 28 OCT 75

NOTES ON PHARMACY QUALITY CONTROL FLOW CHARTS

SHEET 5

5.1 A Medical Material Complaint is initiated in compliance with AR 40-61 and is a notification of drug defect. The complaint can be one of two types: (1) a Type I, which is used if drug problem is life threatening or (2) a Type II, which is used if drug is unsuitable for use. The complaint is made in 3 copies; the original is forwarded to Logistics, one copy is placed in the pharmacy files, and one copy goes to the United States Pharmacopiea/American Society of Hospital Pharmacists/Foods and Drug Administration Drug Defect Reporting Program.

5.2 Stock is rotated so that first in is first out (FIFO) with the exception of dated items which must be rotated to be dispensed prior to expiration date if possible.



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PHARMACY SUBSYSTEM
DRUG INFORMATION FUNCTION
SHEET 1 OF 3 28 OCT 75

NOTES ON DRUG INFORMATION FUNCTION FLOW CHARTS

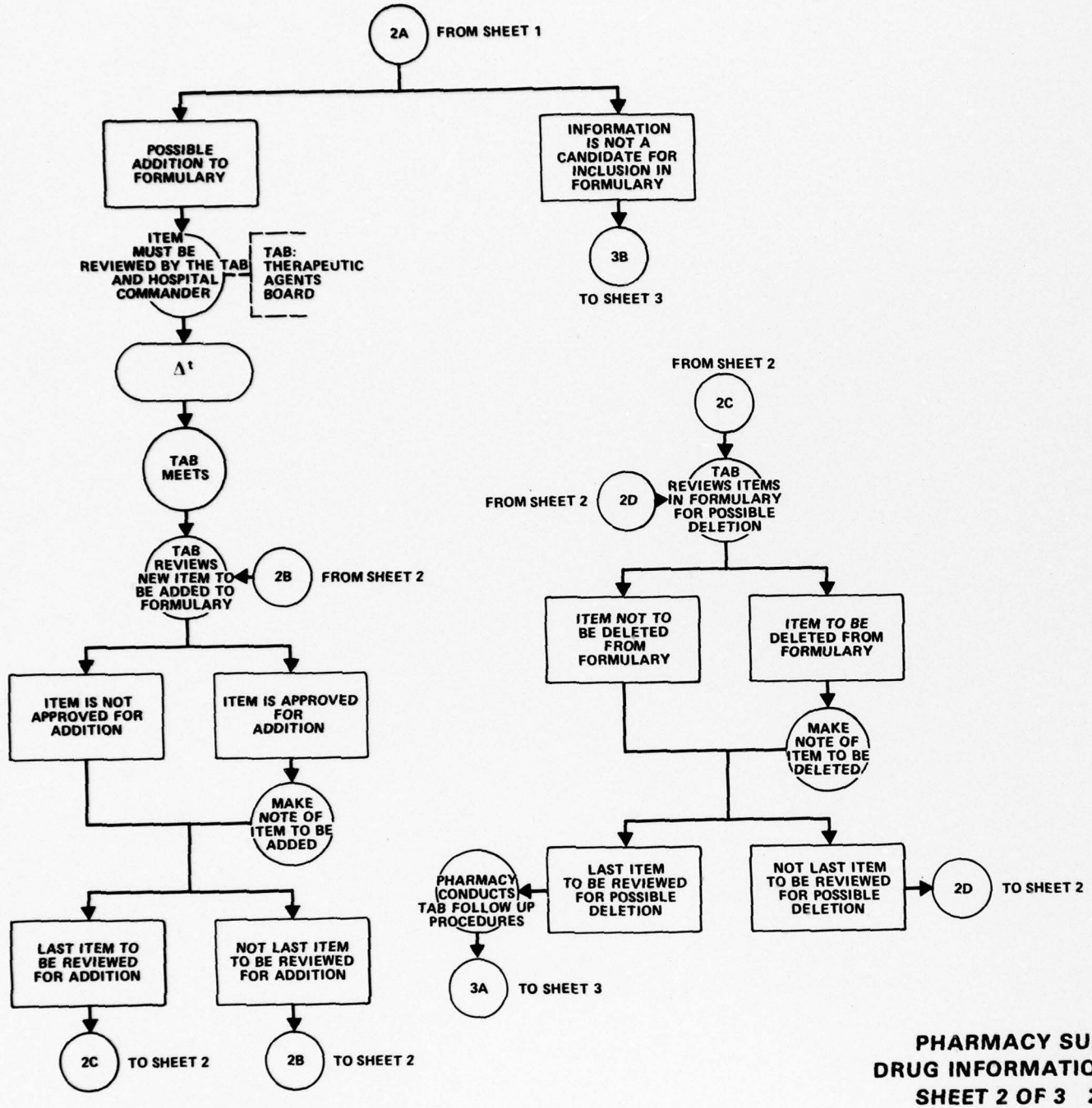
SHEET 1

1.1 A request for information can come from anyone in the hospital.

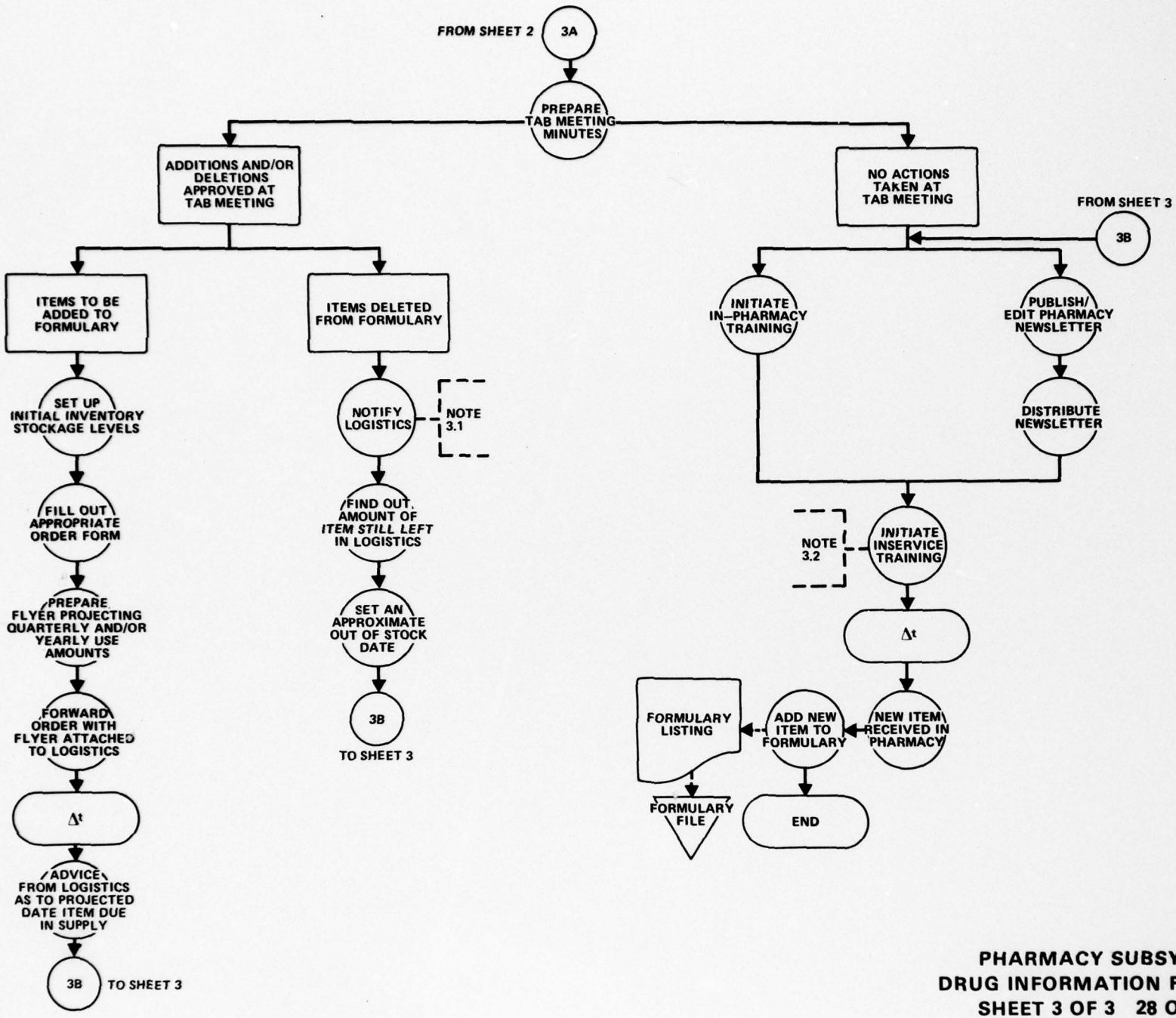
1.2 A legitimate request is one in which a specific question is asked that pertains to a specific patient or group of patients. A non-legitimate request is one in which the question is very broad in terms of time to be expended and pertains to no specific patient case but may be in support of a professional research interest area.

1.3 Should information regarding possible use be placed in the Formulary, The Bulletin of the Therapeutic Agents Board and Pharmacy Newsletter, or is it a one time request? Regardless of the decision, the information will be placed in the pharmacy files for likely future re-use.

1.4 If the technician cannot find the information or the information is not sufficient to meet the needs of the requestor, the technician will discuss the problem with the requestor and try to get a better understanding of the question. If after talking to the requestor the technician feels that he still cannot find sufficient information to answer the question, he will immediately refer the requestor to a pharmacist.



PHARMACY SUBSYSTEM
DRUG INFORMATION FUNCTION
SHEET 2 OF 3 28 OCT 75



PHARMACY SUBSYSTEM
DRUG INFORMATION FUNCTION
SHEET 3 OF 3 28 OCT 75

NOTES ON DRUG INFORMATION FUNCTION FLOW CHARTS

SHEET 3

3.1 The pharmacy notifies Logistics by phone initially and follows this up with a DF for verification. This is handled by Pharmacy inventory control personnel.

3.2 This is to provide information to the hospital staff about the use of or regarding the new information available for drug items (all concerned professional staff members).

FILE DEPENDENCY SUMMARY

1. Process: Outpatient Cycle (OUTPAT)

FILES	ACTIONS (See Legend*)
Patient Profile	AUR
Prescription File	AR
No Show File	A
Scheduled Medication Logs	U

2. Process: Inpatient Cycle (INPAT)

FILES	ACTIONS*
Ward Medication Visible File	A
Pharmacy Medication Visible File	AR
Patient Record	A
Census File	A
IV Admixture Hourly File	AR
Work Unit File	A

3. Process: Non Patient Specific Supply Cycle (NPSS)

FILES	ACTIONS*
Expiration Log	A
Bulk Drug Order File	A
Scheduled Medication Logs	U

4. Process: Inventory Control (INVEN)

FILES	ACTIONS*
Proof of use file	A
Want Book	RU
Supply Visible File	R
Original Request	A
Shrinkage Report File	A
Satellite Pharmacy Inventory List	R
Scheduled Medication File	R

5. Process: Manufacture/Prepack (MANUF)

FILES	ACTIONS*
Batch Sheet File	R
Prepack Card	R
Bulk Drug Order File	A

6. Process: Quality Control (QC)

FILES	ACTIONS*
Problem Items List	AR
Expiration Log	R
Certificate of Destruction	A
Unexplained Growth Report File	A
Laboratory Reports	A
Retraining Needed List	A
Material Complaint	A

7. Process: g Information (INFO)

FILES	ACTIONS*
Formulay File	A
Information Drug File	A

LENGEND

R Process reads or examines data in file

D Process deletes records from file

A Process appends or inserts records into file

U Process updates or modifies existing records in file

EXTERNAL INTERFACES SUMMARY

	PHARMACY PROCESS					
	OUT-PAT	IN-PAT	IN-VEN	NPSS	QC	INFO
EXTERNAL INTERFACE						
-Patient Eligibility Determination (PAD)	X					
-Receive Prescriptions (Wards and Clinics)	X	X				
-Issue Items to Pharmaceutical Areas (W&C)				X		
-Surveillance of Pharmaceutical Areas (W&C)					X	
-Filled Order to Patients	X					
-Logistics MDS Response			X			
-Cart Delivery and Return (Logistics)			X			
-Turn in Supply Process (Logistics)			X			
-Food Tolerances Update and/or Clinical Support (Food Service)		X				
-Food Service Orders Process		X				
-Laboratory Reception					X	
-Chemistry Reporting and/or Microbiology (Laboratory)		X			X	
-Transition Process (Radiology)		X				
-Therapeutic Agents Board-Formulary Maintenance					X	
-Therapeutic Agents Board-Drug Information					X	
-Professional Community-Drug Information					X	

INDEX TO PHARMACY CHARTS

PROCESS	MNEMONIC*	PHARMACY CHART NUMBER	No. of SHEETS	PAGE
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Inpatient Pharmacy Cycle	Inpat	2	11	31
Inventory Control	Inven	4	21	63
Manufacture/Prepack	Manuf	5	4	103
Non-patient specific Supply Cycle	NPSS	3	3	56
Outpatient Pharmacy Cycle	Outpat	1	9	8
Pharmacy Quality Control	QC	6	5	112

*These are not intended for use as general identifiers but are only for use with these charts for indexing and cross-referencing purposes.

TRIMIS-Army Technical Report 1-7

AD A043 219

LABORATORY SUBSYSTEM

FOR

DEPARTMENT OF PATHOLOGY

CONDITION-ACTION DIAGRAM FLOWCHARTS

US ARMY TRIMIS AGENCY
Walter Reed Army Medical Center
Washington, DC 20012

October 1976

Approved for Public Release - Distribution Unlimited

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REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: TRIMIS-ARMY-1-7	2. GOVT ACCESSION NO.
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE *(and Subtitle)*: LABORATORY SUBSYSTEM FOR DEPARTMENT OF PATHOLOGY CONDITION-ACTION DIAGRAM FLOWCHARTS	5. TYPE OF REPORT & PERIOD COVERED
	6. PERFORMING ORG. REPORT NUMBER: N/A
7. AUTHOR(s): Mrs. Anna Lea Weihrer, CPT Jim Anschutz	8. CONTRACT OR GRANT NUMBER(s): N/A
9. PERFORMING ORGANIZATION NAME AND ADDRESS: USA TRIMIS Agency, WRAMC, Washington, DC 20012	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: USA TRIMIS Agency, WRAMC, Washington, DC 20012	12. REPORT DATE: October 1976
	13. NUMBER OF PAGES: 65
14. MONITORING AGENCY NAME & ADDRESS *(if different from Controlling Office)*: N/A	15. SECURITY CLASS. *(of this report)*: UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE: N/A

16. DISTRIBUTION STATEMENT *(of this Report)*

Approved for public release: distribution unlimited

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

Same

18. SUPPLEMENTARY NOTES

For use in conjunction with TRIMIS-ARMY-TR-1-1 Overview.

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Flowchart, Condition-Action Diagram, Health Care, Information System, Outpatient Services, Hospital, Clinical Laboratory, Pathology

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

The purpose of these condition-action diagrams for the non-computerized Walter Reed Army Medical Center (WRAMC) Department of Pathology was to depict the flow of documents and specimens, to provide a graphic representation of the major processes in the WRAMC laboratory, to document the type of records being kept, and to indicate the interfaces between this department and other departments (particularly Wards and Clinics) and the working relationships which existed in the Walter Reed laboratory during the time

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Block #20:

October 1974 to February 1975. The intent was to provide an understanding as to how the laboratory operated as it did in order to see where automation could help, what problems change would bring, and where computer automation might help the laboratory. It was further expected that these diagrams would be used by others to denote the type of activity and the procedures used by laboratories, and thus assist them in developing new, or adapting these, flow diagrams to their own laboratories. In producing flow diagrams, there is always information for immediate laboratory improvement which benefits the laboratory regardless of the decision to obtain computer support. These documents also are good training aids.

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ACKNOWLEDGMENTS

The production of these laboratory flowcharts is the result of an analysis performed at the laboratory of Walter Reed Army Medical Center (WRAMC). The individuals participating in the effort were Mrs. Anna Lea Weihrer and CPT James H. Anschutz, TRIMIS-Army, and supervisory personnel at the WRAMC Department of Pathology.

LABORATORY SUBSYSTEM

NARRATIVE

1. PURPOSE

The purpose of these condition-action diagrams for the non-computerized Walter Reed Army Medical Center (WRAMC) Department of Pathology was to depict the flow of documents and specimens, to provide a graphic representation of the major processes in the WRAMC laboratory, to document the type of records being kept, and to indicate the interfaces between this department and other departments (particularly Wards and Clinics) and the working relationships which existed in the Walter Reed laboratory during the time October 1974 to February 1975. The intent was to provide an understanding as to how the laboratory operated as it did in order to see where automation could help, what problems change would bring, and where computer automation might help the laboratory.

The diagrams depict non-computer-supported procedures and, though they represent operations primarily as they existed in the department prior to the move to the new hospital, in a few areas some of the personnel roles projected for the new hospital were included. Since these flows were charted, personnel and policy changes have brought some changes to the department.

These charts were used by TRIMIS in developing functional requirements for computer support of the clinical laboratory with the goal of minimal change within the laboratory for administrative procedures, maximal elimination of clinical work by laboratory technicians, and increased specimen identification and result accuracy.

It was further expected that these diagrams would be used by others to denote the type of activity and the procedures used by laboratories, and thus assist them in developing new, or adapting these, flow diagrams to their own laboratories.

It should be noted that the "fee" or "charge" system is not present in the military system, but workload reporting is very important.

2. BACKGROUND

The Department of Pathology at WRAMC is physically divided into three areas: Anatomic Pathology, located in the Armed Forces Institute of Pathology (AFIP) building on the WRAMC campus; the main clinical laboratory, located in a temporary building connected to the main hospital; and a small laboratory and draw area, located in the basement of the outpatient clinic. It is expected that the latter two will be consolidated in the new hospital. In addition, a few tests are run

at the regional laboratory at Fort Meade, some 25 miles away, and at the Walter Reed Army Institute of Research (WRAIR), also on the WRAMC campus.

The Regional Army Laboratory at Fort Meade has recently come under the management of the WRAMC Department of Pathology. This laboratory receives mail-ins and specimens by messenger from many places throughout the northeast quadrant of the United States. This laboratory also does a large volume of testing for the Army drug detection and rehabilitation program. These processes are not diagrammed. It may be that some redistribution of work will be required and that much of the work at Fort Meade will be moved to WRAMC.

The forms in use were the standard DOD forms for laboratory test requesting, a few of which were modified for WRAMC as required for their environment. The use of a standard form for requesting, which is not specifically designed for the operation of the laboratory where it is used, creates some problems in work flow, and these problems are reflected in the actions diagrammed.

In military hospitals, phlebotomists draw only non-ambulatory patients. Ward rounds are usually conducted once a day (early morning) due to personnel shortages. To help distribute work, it was policy that all requests for ward rounds be sent to the laboratory, not held on the floor, and then given to the draw team. Ambulatory patients are sent to the laboratory for blood drawing, and all other specimen collections are the responsibility of the ward personnel.

The laboratory policy of accountability began when the specimen and its accompanying request were taken to the laboratory. The policy was that specimens not labeled, and/or not accompanied by a request, were destroyed. The specimens were received at a control desk (reception area) and then distributed to the various sections; e.g., chemistry, hematology, etc. Patients arriving at the reception area were drawn and their specimens given to the control desk for distribution.

One of the most important concepts to the operation of WRAMC's laboratory is that specimens are kept in ascending accession number order. Each section was responsible for its own records and reporting procedures. Sections developed their own control systems and answered telephone inquiries for tests they performed. Results were recorded on the request slip unless the instrument produced a printed output suitable for records. One copy remained in the section and the others were sent to the requesting ward or clinic.

Instrumentation at WRAMC included multiple- and single-channel instruments. Most of these instruments produced graphic results which required interpretation or calculations to be made. There were a few devices with digital displays or digital printouts. These devices, an SMA-12 in Chemistry, Coulter 'S' in Hemotology, and an SMA-6 in the

Stat laboratory, did a specific set of procedures. The laboratory operated with a minimal staff for second and third shifts, and weekends.

The laboratory staff within a section rotate through the various work stations to reduce boredom, increase training, and permit better utilization of personnel.

3. LIMITATIONS

The flow diagrams depict what actually took place as best it could be determined. There is no attempt to justify or criticize a procedure. The flows are very much location-dependent and strongly reflect the WRAMC environment and the laboratory policy in force. There was no attempt to generalize these.

There are several special laboratories under specific departments which are not flowed (e.g., Nuclear Medicine has a laboratory for special studies under the Radiology Department).

4. OBJECTIVES

By denoting the document and specimen flow and the control logs used, an ADP data base could be constructed. Knowledge of the type of controls will help to determine the type of management information that will be required and so assist in the proper organization of this data base. Redundancy could be easily recognized. Problem areas, which prevent the timely reporting of results, can be identified. Logistics functons are not included.

Of prime importance in any laboratory system are specimen identification and control, the accuracy of reported results, the timeliness of result return, and the usefulness of the result to the care provider. Transcription errors can be reduced by standardized procedures and controls. Accuracy can be improved by a strict quality control (QC) program which permits early detection of potential problem areas.

In producing flow diagrams, there is always information for immediate laboratory improvement which benefits the laboratory regardless of the decision to obtain computer support. These documents also are good training aids.

5. INTERFACES

The laboratory interfaces with a variety of people and other hospital areas. When a health care provider orders the test in the ward or clinic area, the request for service is initiated. Presently,

the routine procedure is for the health care provider to fill out the request (test) portion and signature block of a request slip, or to write his order on an encounter sheet for outpatients or in an order book for inpatients, or verbally instruct another member of the health care team to request the tests. To provide legible patient and specimen identification, the embossed patient card is used to imprint the patient's identification on the request slip (three-copy form). The imprinters may have a requesting location imprinted at the same time. If not, the slips are stamped with the requesting location or it is written on the slip. Any special information about the patient or the specimen is also written on the slip and the priority and other required fields are marked.

If the specimen has been collected at the time the request is made, gummed labels are imprinted, using the patient's card. The specimen is then delivered to the laboratory by messenger service, the patient, or ward personnel, etc. If the specimen has not been collected, the request slip and required labels are given to the patient who is to deliver them to the laboratory and have the specimen drawn. If the patient is a non-ambulatory inpatient and the specimen is not a Stat, the request and labels are sent to the laboratory with an indication that the laboratory is to draw the specimen on ward rounds.

In addition to requests generated by WRAMC health care providers, patients may come to the laboratory for work requested by doctors at other military facilities or by civilian doctors. These requests may or may not have specimens already drawn but results must be returned to the appropriate physician for inclosure in the patient record.

Each patient requesting service must be eligible to receive care. The receptionist must check the patient's documents and then document the request and collect data required to insure the report gets to the appropriate place. This process of registration is the responsibility of the patient administration department. However, each area is responsible for insuring eligibility. Most patients bring requests which are WRAMC-generated and for whom eligibility has been checked, but patients whose initial contact with WRAMC is the laboratory must have the registration process initiated. On the flowcharts this is designated as a registration process.

Once the test has been completed, the results must be seen by the care provider and placed in the patient's medical record. The test results on the slips are placed in pickup boxes labeled by location. The ward/clinic personnel are responsible for picking up result slips, distributing them to the health care providers, and for seeing that they are placed in the record. The WRAMC policy is for a slip to be reviewed by the physician, initialed, and then placed in the chart. This procedure provides the opportunity for slips to be lost resulting in incomplete records. The report must contain the patient's full

FMP-SSN, clinic/ward, and requesting physician to be filed correctly. Many requests are not properly identified and become "lost elements" of the record. It would be possible for the original request/result to be sent to the record room and another copy sent to the physician (Copy 3, second carbon). At WRAMC, this presents a couple of problems: sorting of the doctor's copy and the fact that WRAMC requires the record copy to be signed. A deviation from existing policy is not feasible at this time but would be possible with ADP support.

Other interfaces are with: the Infection Control Committee, to identify possible infections early; the Tissue Committee, to control procedures; the various registries, to identify patients with specific disease entities; and the Transfusion Committee, to identify blood transfusion problems.

The logistics department does much of the supply requisitioning but the laboratory also does a great deal of supply ordering. This is not depicted in these diagrams.

6. OVERVIEW/GENERAL FLOW CHART DESCRIPTION

The organization of the flowcharts reflect the department's organization and the charts are divided either according to organization or function.

The laboratory reception function is the interface with the laboratory and the external environment, patients, health care providers, and other laboratories. Specimens and requests are received and stamped with receipt date/time. Patients arrive for specimen collection, to deliver specimens, to make appointments for special tests, or to have special procedures performed. In order to return results, the patient and requesting location must be correctly identified. The receptionist insures that this process can be completed.

Most control of specimens and results are done through hardback logs which record receipt, what is requested, and results or test completion. Most logs are kept by the sections but the receptionist keeps logs for specimens sent elsewhere for processing or for results which are to be returned to places not on the WRAMC campus.

Basically, specimens are obtained in three ways. One method is for phlebotomists under the direction of the laboratory to collect blood specimens on the wards. Ideally, specimens should be collected on demand for wards but in reality ward rounds are performed only in the early morning. Another method is for specimens to be obtained by the wards and clinics and sent to the laboratory. Finally, outpatients and ambulatory ward patients are sent to the laboratory to have the specimens drawn.

At WRAMC, all patients have embossed plastic cards which are used for imprinting the patient identification on requests and specimens. There are imprinters at each clinic/ward area.

WRAMC operates an outpatient laboratory which draws specimens for outpatients and which performs a limited number of tests, mostly hematology and urinalysis. For tests not performed in the outpatient laboratory, specimens are sent to the main laboratory by a messenger.

Due to its location, Urinalysis processes its own specimens which are received directly from patients or by messenger. This section does not perform accessioning of samples in the same way as Chemistry though it does assign processing numbers to specimens. If samples are required for analysis by other sections, a new slip is prepared and sent with the specimen. For a urinalysis, any positive qualitative test is confirmed with a quantitative test.

The chemistry section handles the largest numbers of specimens. Chemistry has a preprocessing room where specimens and slips are accessioned, worklists are prepared, and specimens are centrifuged and aliquoted for the various work benches. A specimen frequently has several aliquots. The laboratory has devised special processing racks which hold the clot tube and has room for aliquots for several commonly performed tests. Since the bulk of the samples are received early, technicians take turns working in the central area and many help in the early morning. To permit this arrangement, all specimens are kept in sequential order and aliquots in ascending order since not all accession numbers would request all tests. After accessioning, specimen identification is done using the accession number. The request slip does not accompany the specimen.

The flow diagrams depict processing that is done manually or by using automated procedures. The SMA-12 processing is done without going through the central processing area.

Some special microprocessors connected to programmable calculators were used for some tests for chemistry while others were performed on machines with digital read-out or printed results.

All Stat results are called to the wards and clinics. If a procedure not done in the Stat laboratory is requested Stat, it is processed prior to routine specimens. The Stat laboratory only performs certain tests. These are accessioned by this area with a special series. The tele-autograph permits results to be transmitted to a few areas. Each area performs its own QC and new procedure testing. In Chemistry, there is one person assigned to quality control.

Since blood for Hemotology must be processed quickly, this section analyzes ten samples at a time basically unless the workload volume is extremely low. Stats are placed at the head of each lot.

The blood donor program is under the Department of Pathology. Tight QC controls are maintained since mislabeled blood is life-threatening. The donor center processes and classifies all blood obtained directly from donors or received from other blood banks.

Transfusion requests have a tighter specimen control than other test samples, due to the seriousness of mis-identification and also due to blood bank regulations. The FDA now registers blood banks. Though military hospitals do not require blood to be procured from registered labs, all blood sent from WRAMC to other FDA-approved transfusion centers must be registered. Blood transfusion requests must be filled out for each unit of blood requested, and blood is under blood bank control until ready for transfusion.

A request to obtain blood previously requested is transmitted through a prescription signed by an authorized health care provider. Any possible transfusion-related reaction is investigated by personnel from the blood bank.

Strict inventories of blood products are maintained and a computerized record is made of each blood product obtained and its final disposition. WRAMC does supply blood to, and receives blood from, other military facilities.

Microbiology does its own specimen-processing since organism counts can be seriously overstated if the specimens are not handled promptly. This section's reports differ from others in that it is desirable to produce interim or non-final reports on micro-specimens because testing time can take several days or weeks.

Anatomic Pathology, physically located in WRAIR, is connected to the hospital by a pneumatic tube system and by underground tunnel. This section performs histological and cytological examinations. Records of all malignancies, or possible malignancies, are maintained in addition to the original slide/block.

Workload reporting is a most important function since it greatly affects the resources allocated to a military facility. The CAP (College of American Pathology) weight-load factors are used to help normalize the varied amount of work per test required. This workload includes clerical procedures and other support functions required by the laboratory.

Though the laboratory has a supply group, this is detailed under logistics.

7. AMENABILITY TO ADP SUPPORT

Computer assistance for laboratories are well-advanced. These condition-action diagrams can be used to select a system which can be tailored to WRAMC; which will preserve or enhance the ability to obtain information, logs, etc.; and which will reduce the disruption a computer system will cause in the laboratory. These diagrams depict what information is required, who should collect it, who uses it, where clerical tasks can be eliminated, and how efficient/accurate reporting can be accomplished.

ABBREVIATIONS AND DEFINITION OF TERMS

Aerobic - Growing in the presence of free oxygen.

AFIP - Armed Forces Institute of Pathology.

Aliquot - Dividing the original specimen into smaller amounts for use by different tests.

Anaerobic- Growing in the absence of free oxygen.

ASAP - As soon as possible.

Autologous - Donor donates blood for himself.

Blood Segment - Piece of plastic tubing attached to unit of blood--containing a small sample of it.

9810 Calculator - An HP calculator interfaced to a laboratory instrument at WRAMC capable of printing digital test values and writing the test values to a tape cassette.

9830 Calculator - An HP calculator which uses a tape input to calculate laboratory tests values in an off-line mode.

Calibration - Setting high/low values of instrument.

Controls - Samples with known concentrations or values which are interspersed with samples to check drift and/or instrumentation problems.

CONUS - Continental United States.

CP - Care provider; e.g., nurse, medical records technician physician.

Diff - Cellular morphology for a blood specimen.

Donor - One who donates blood.

Eligibility for Care - The military hospital treats as non-emergencies only persons authorized such treatment. This activity is accomplished by Patient Administration personnel. Military regulations require Patient Administration to establish that patients admitted to local military treatment facilities are authorized such treatment.

FMP - A two-digit prefix used to identify the relationship of a patient to his sponsor.

Forest Glen - Annex to WRAMC.

Fort Meade - Army area laboratory now annexed to WRAMC.

GTT - Glucose tolerance test.

ID - A number which identifies a patient; consists of a family member prefix and social security number or a register number.

Lab Draw - Collecton method which means the patient is ambulatory and will be sent to the laboratory for specimen collection.

Lab Slip - Laboratory request form.

Load List - A list of specimens to be processed on an instrument which transmits test result data directly (on-line) to the data processing system. The list contains a sequence number for the accession number, quality control, standard, or blank included in the run. The technician operating the instrument follows this list in sequencing the samples processed by the instrument.

Loc - Location (ward/clinic).

Log - Entering of patient information into record; the logistics subsystem.

Long Draw - In obtaining a unit of blood from a donor, more than the prescribed amount is drawn. The unit cannot be used for human transfusion.

Normal Limits - A range of normal values for a lab test based on a patient's age and sex.

- Number.

Pat - Patient.

Patient Transfusion Record - This record contains the patient's PTID; group/type; each transfusion given with the date, time, and amount; requesting physician; problem patient; antibiotics; products cross-matched but not yet given or returned; and comments. A record is kept for each patient who receives blood.

pH - Hydrogen-ion concentration.

Phlebotomist - Person who draws blood for laboratory testing.

Phy - Physician.

QC - Quality control.

Short Draw - In obtaining a unit of blood, less than prescribed amount is drawn from the donor. The unit cannot be used for human transfusion.

SpG - Specific Gravity.

SSN - Used for record identification, this is the social security number of the sponsor of a patient.

Standard - A substance with a known value used in the laboratory to assay a volumetric solution of unknown strength. Usually, different concentrations are run, the values plotted, and linear curves drawn between the points for use in assaying an unknown sample.

STAT - Test request priority; indicates that the result is needed immediately. Usually implies special processing in the laboratory.

Technical Limits - A limit for a test that indicates an extremely abnormal result.

Ward Rounds - Collecton method which means that the laboratory will collect the specimen from the patient on the ward when making ward rounds.

Wd - Ward.

Work List - This document presents a tabular listing of the specimens to be tested for specific laboratory requests. It provides a check list for the technician and may serve as an intermediate document on which results are manually recorded for subsequent transcription to patient reports.

WRAIR - Walter Reed Army Institute of Research.

WRAMC/WR - Walter Reed Army Medical Center.

CONDITION-ACTION
DIAGRAM INTERPRETATION GUIDE

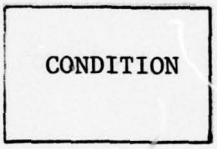
1. ACTION

When an action circle is encountered, the specified action, procedure, function, or process is to be performed as noted. An action is performed. It never has a truth (true or false) value.



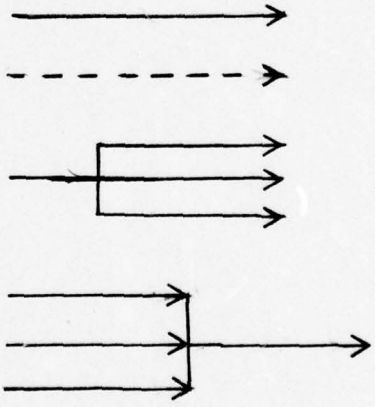
2. CONDITION

When a condition box is encountered, the specified condition is to be evaluated; and, if it holds true or succeeds, the following blocks on the diagram are to be executed. This box is also used to denote the condition which caused this path to be taken.



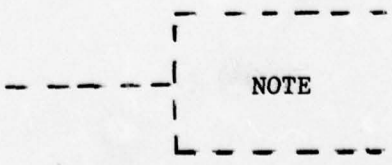
3. FLOWLINES

Flow proceeds through the diagram along the flowlines. When a flowline splits into multiple lines, all the lines must be followed (perhaps at once). If only one is intended, condition boxes will be used to select the proper line. When flowlines join or reconsolidate into a single line, that line is to be followed regardless of the number of joining lines that were active. Control, execution, or interpretation of the diagram is shown by solid flowlines. Data and information are usually assumed to accompany control; but, where necessary for clarity, it is shown by "dash" lines, regardless of media.



4. NOTE

Clarifying notes, comments, remarks, and other annotations, including references to additional documentation, are enclosed in "dash" note boxes and are connected to the annotated structure by "dash" lines.



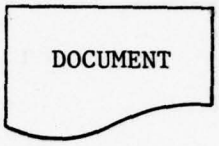
5. STORAGE

A triangular storage block indicates storage of information or data regardless of the medium of storage.



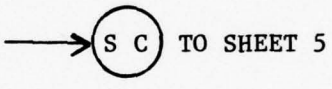
6. DOCUMENT

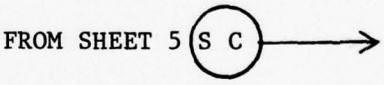
A document symbol represents information or data, regardless of format. (It may or may not physically reside on document). It is used only for clarity, as information such as that contained in the "document" is assumed to be always present along with the control flow.



7. CONNECTOR

A connector circle specifies that the flow continues on another page or sections of this page. An out-connector contains a number (which is the sheet number at which the flow is continued) and a letter (which specifies which in-connector on that sheet is being referenced). The in-connector contains the matching number/letter code. Adjacent to the connectors is a notation as to the sheet and process to, or from, which the connectors refer.





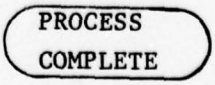
8. PROCESS

The process symbol at right indicates a process to be performed. The process referenced will be diagrammed in its own set of condition-action flowcharts which are included in the same packet of flowcharts for reference. After the process is performed, flow resumes.



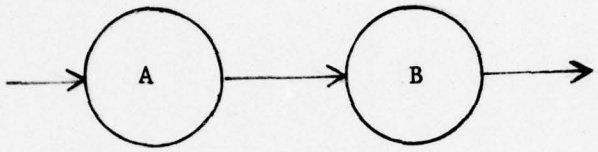
9. TERMINATOR

The oblong terminator symbol indicates that the current process or sub-process is complete. Normally, upon completion of a process, control returns to the process which invoked it and resumes where it left off in that process.

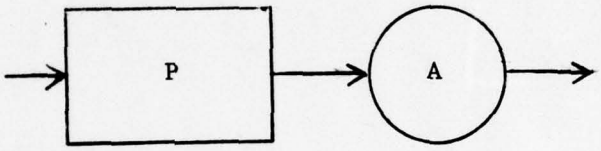


CONDITION-ACTION EXAMPLES

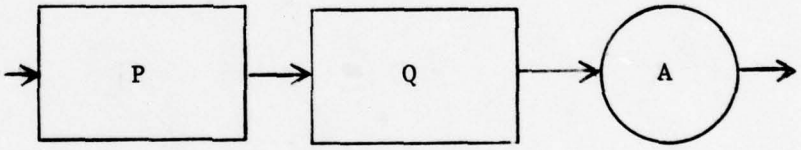
Perform Action A first, then in sequence, perform B.



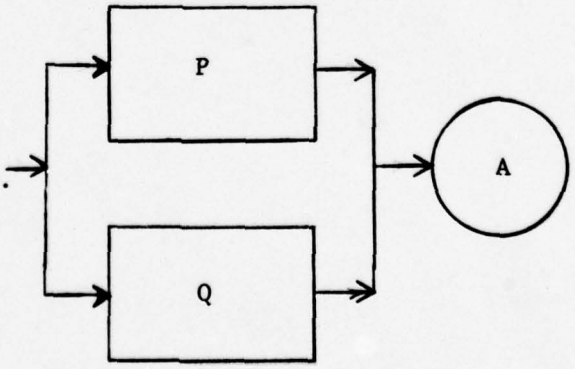
If Condition P holds true, then perform Action A.



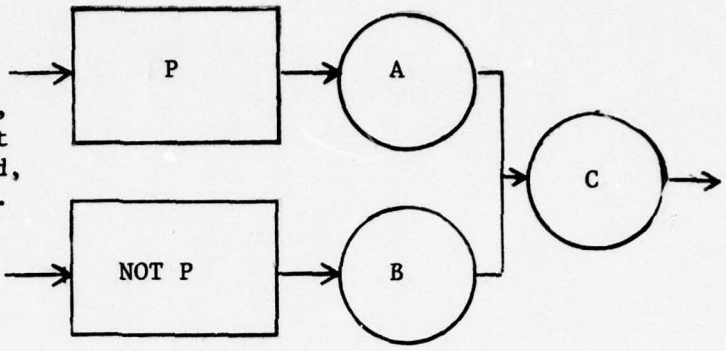
If both Condition P and Condition Q hold true, then perform A.



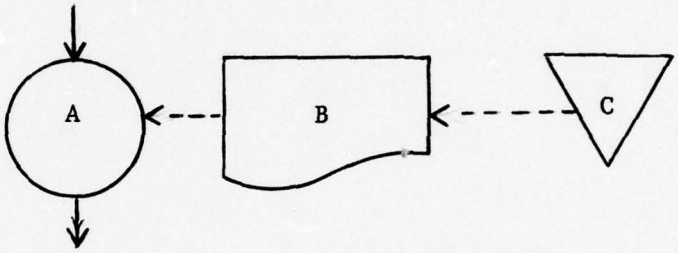
If either Condition P or Condition Q holds true (or both), then perform A.



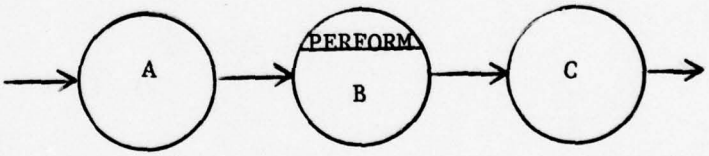
If Condition P holds true, then perform Action A, but not B. If P does not hold, then perform B, but not A. In any case, when done, perform C.

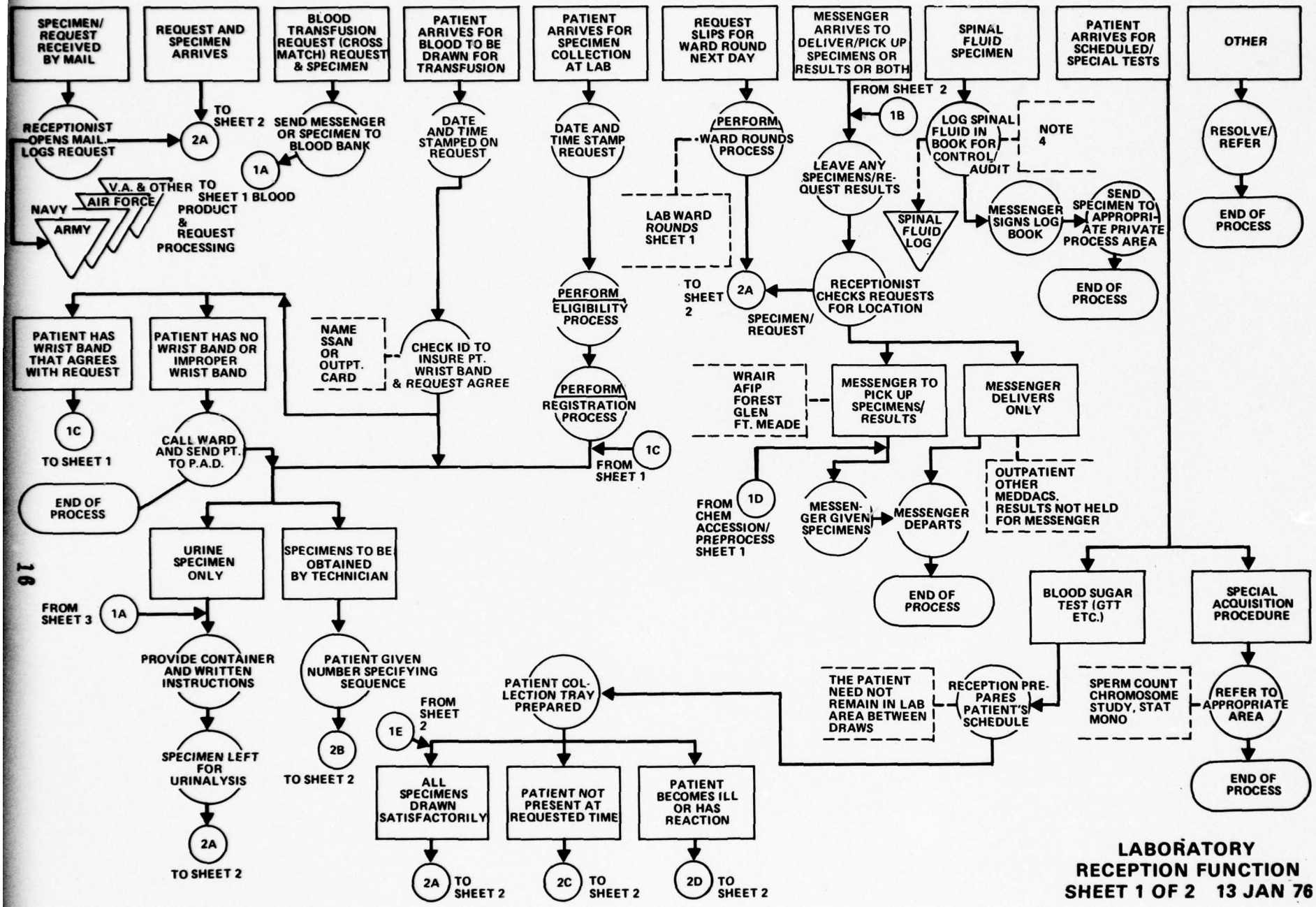


Perform Action A, utilizing information contained on the Document B which was retrieved from the File C.

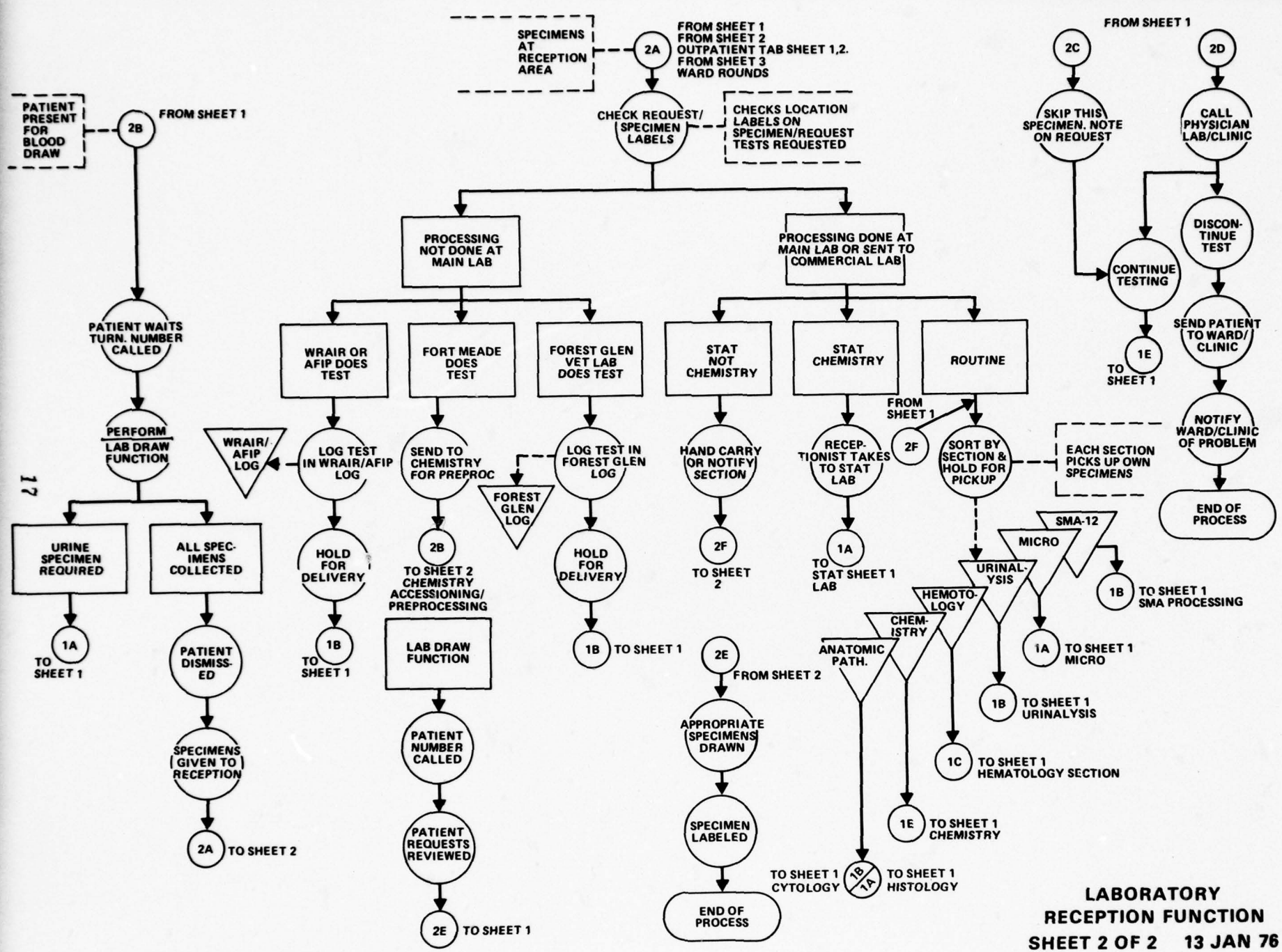


First perform Action A. Then perform Process B, which is itself flow-charted elsewhere in this set of charts. After B is completed, return to here and perform Action C.



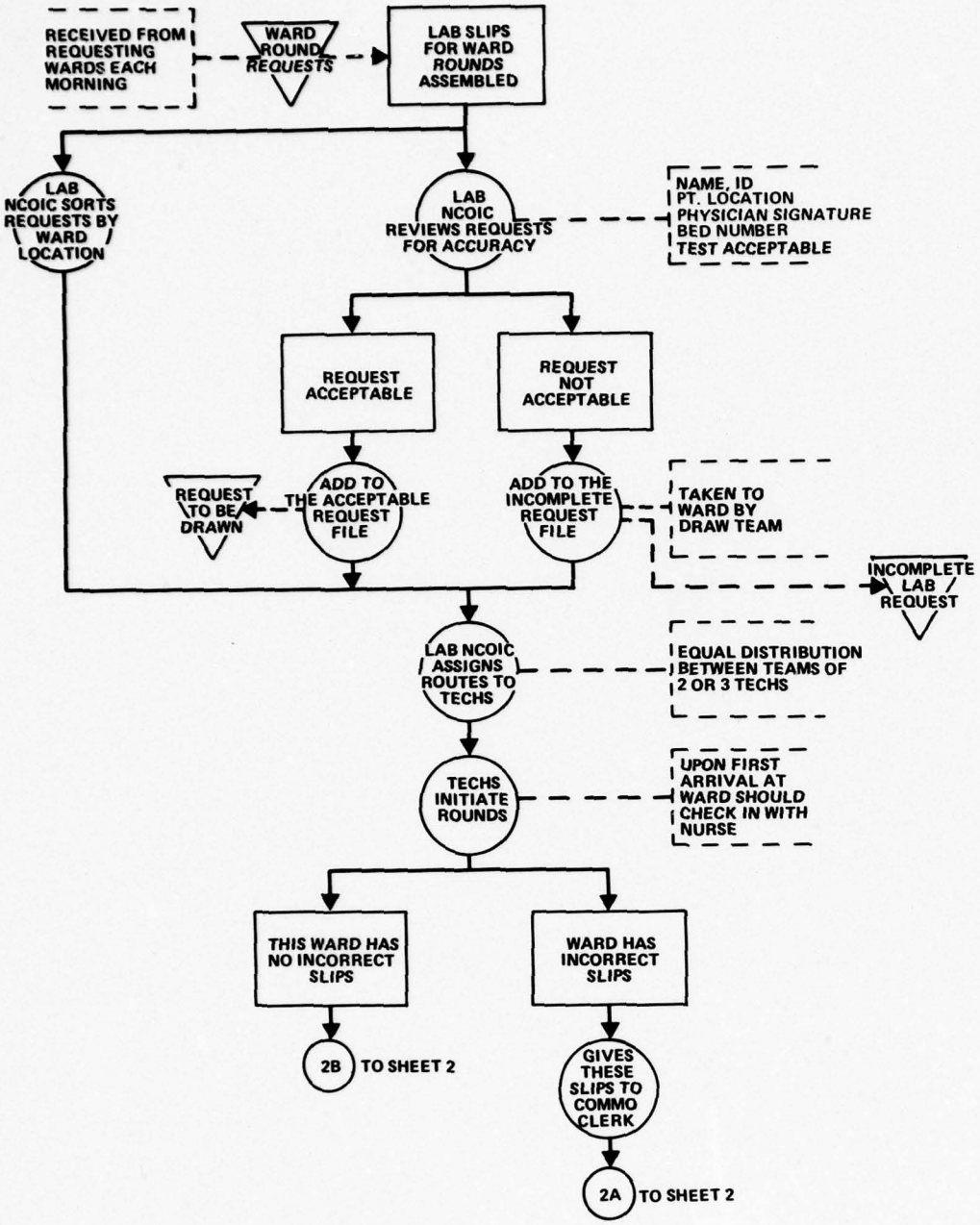


LABORATORY RECEPTION FUNCTION
SHEET 1 OF 2 13 JAN 76

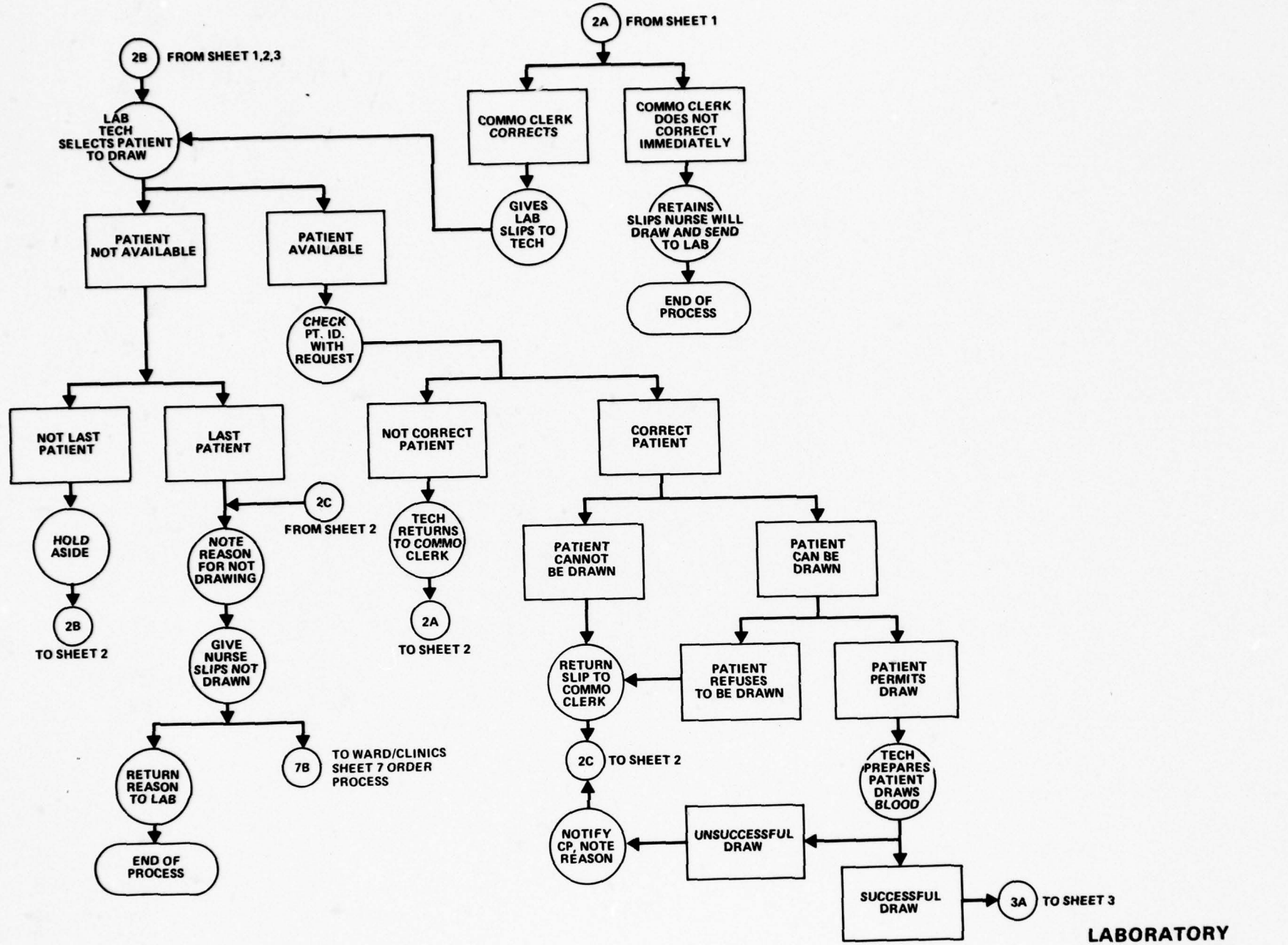


LABORATORY RECEPTION FUNCTION

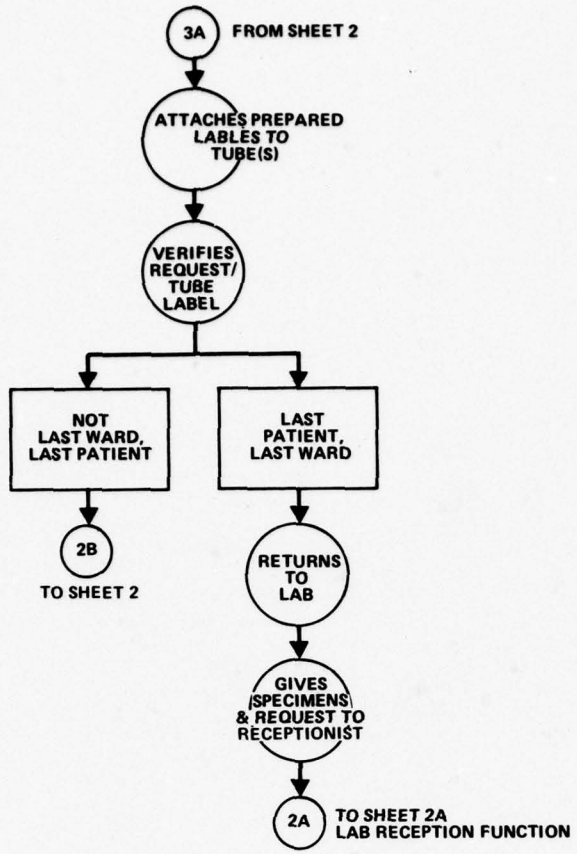
SHEET 2 OF 2 13 JAN 76



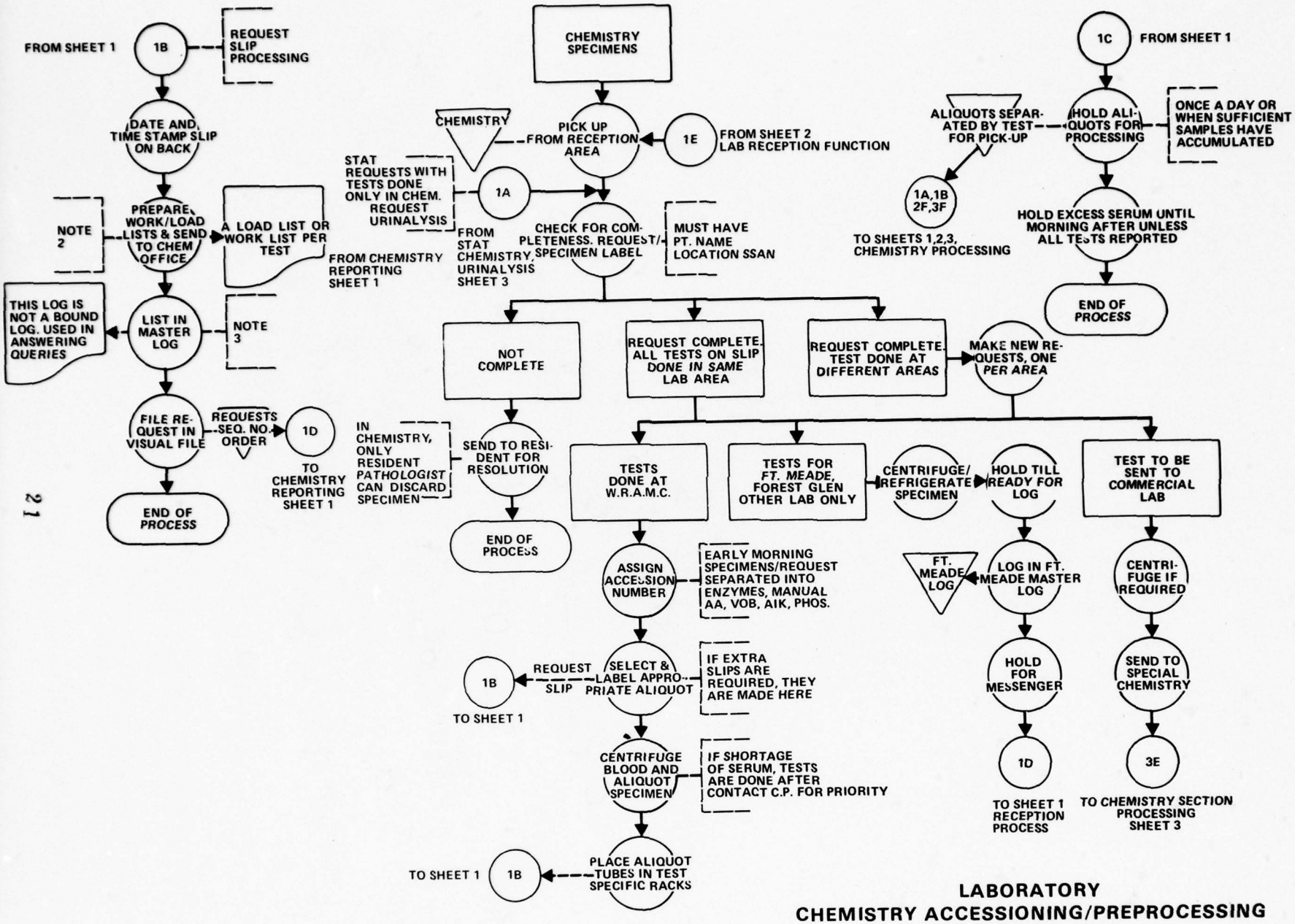
LABORATORY
WARD ROUNDS
SHEET 1 OF 3 13 JAN 76



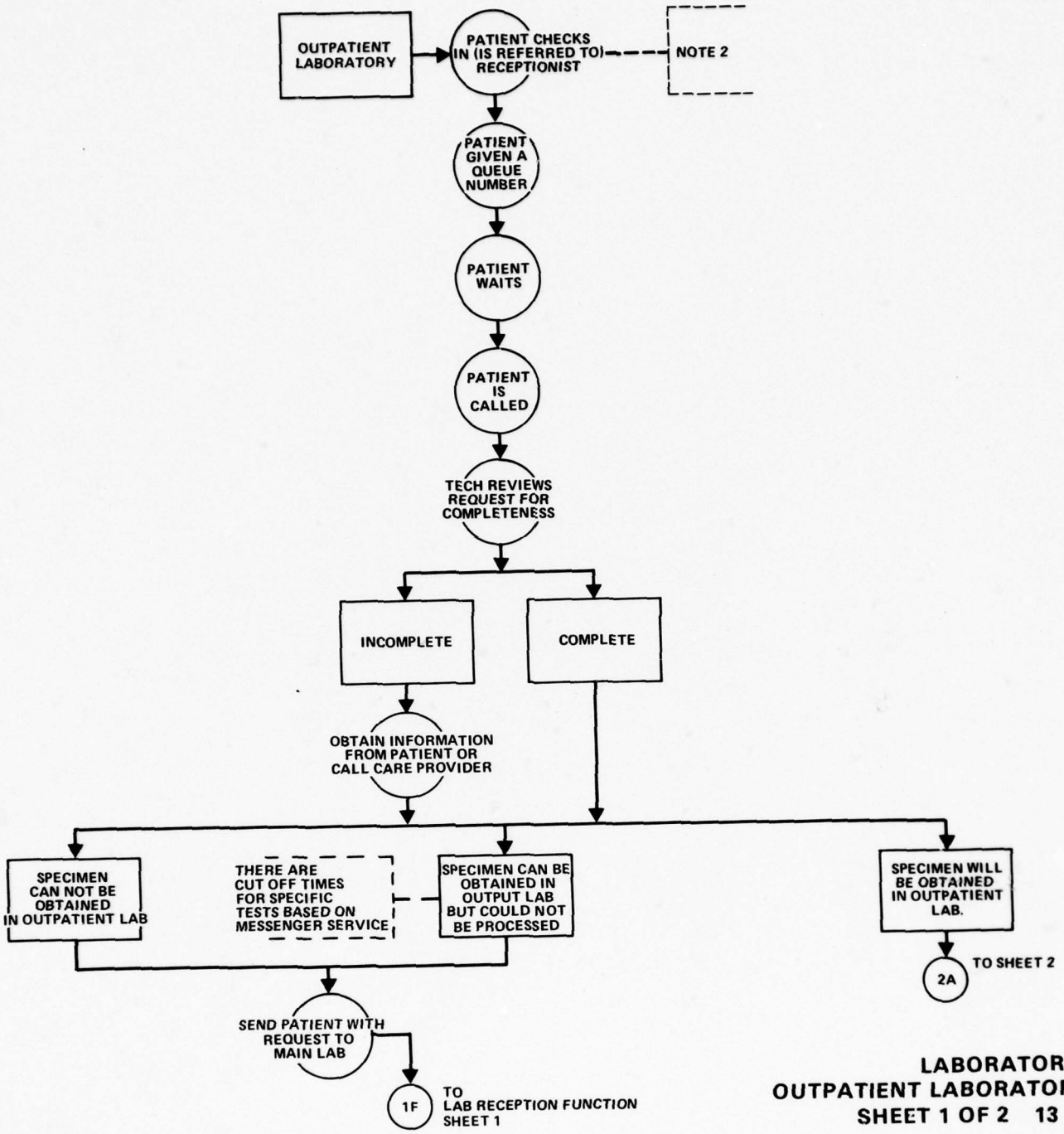
LABORATORY WARD ROUNDS
SHEET 2 OF 3 13 JAN 76



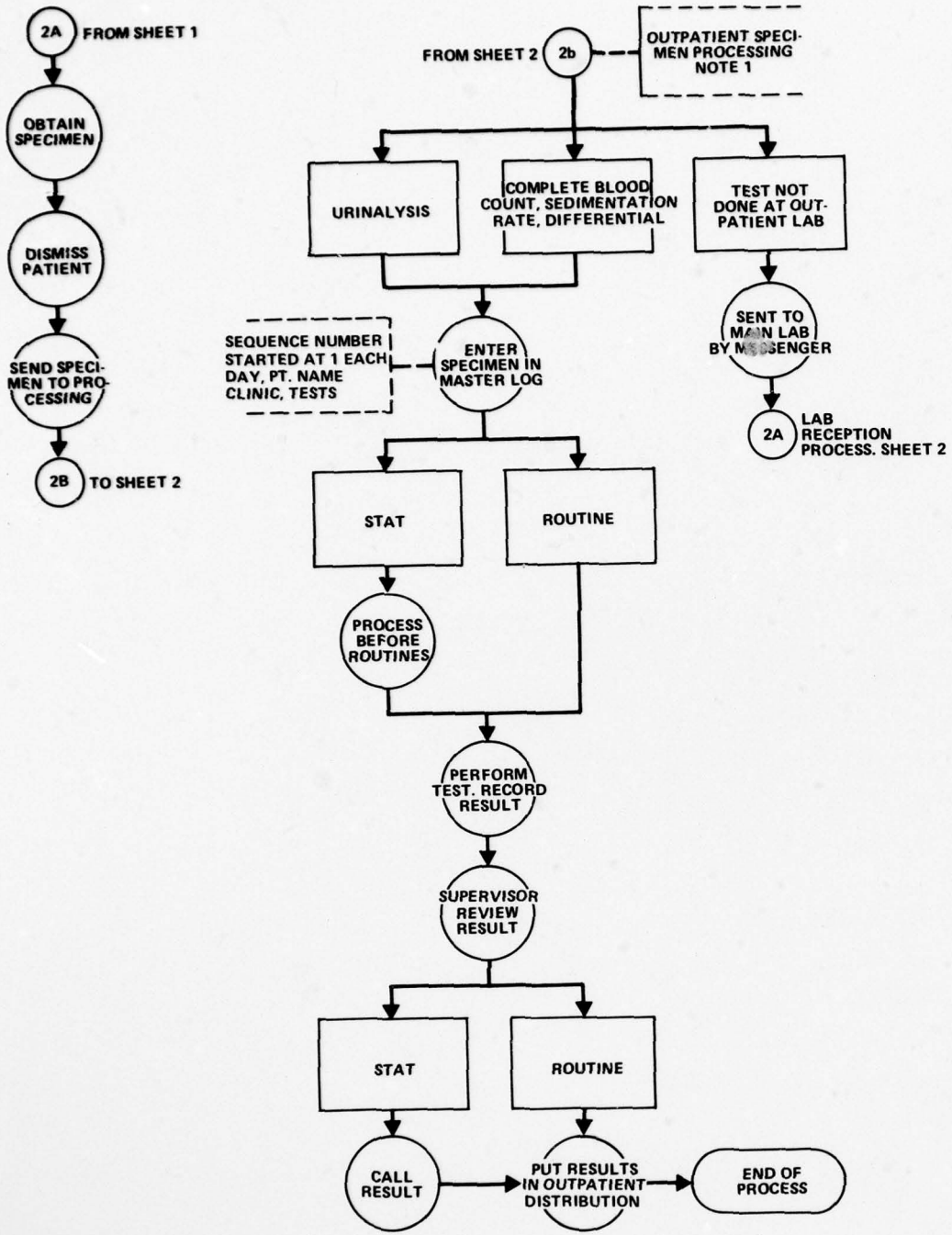
LABORATORY
WARD ROUNDS
SHEET 3 OF 3 13 JAN 76



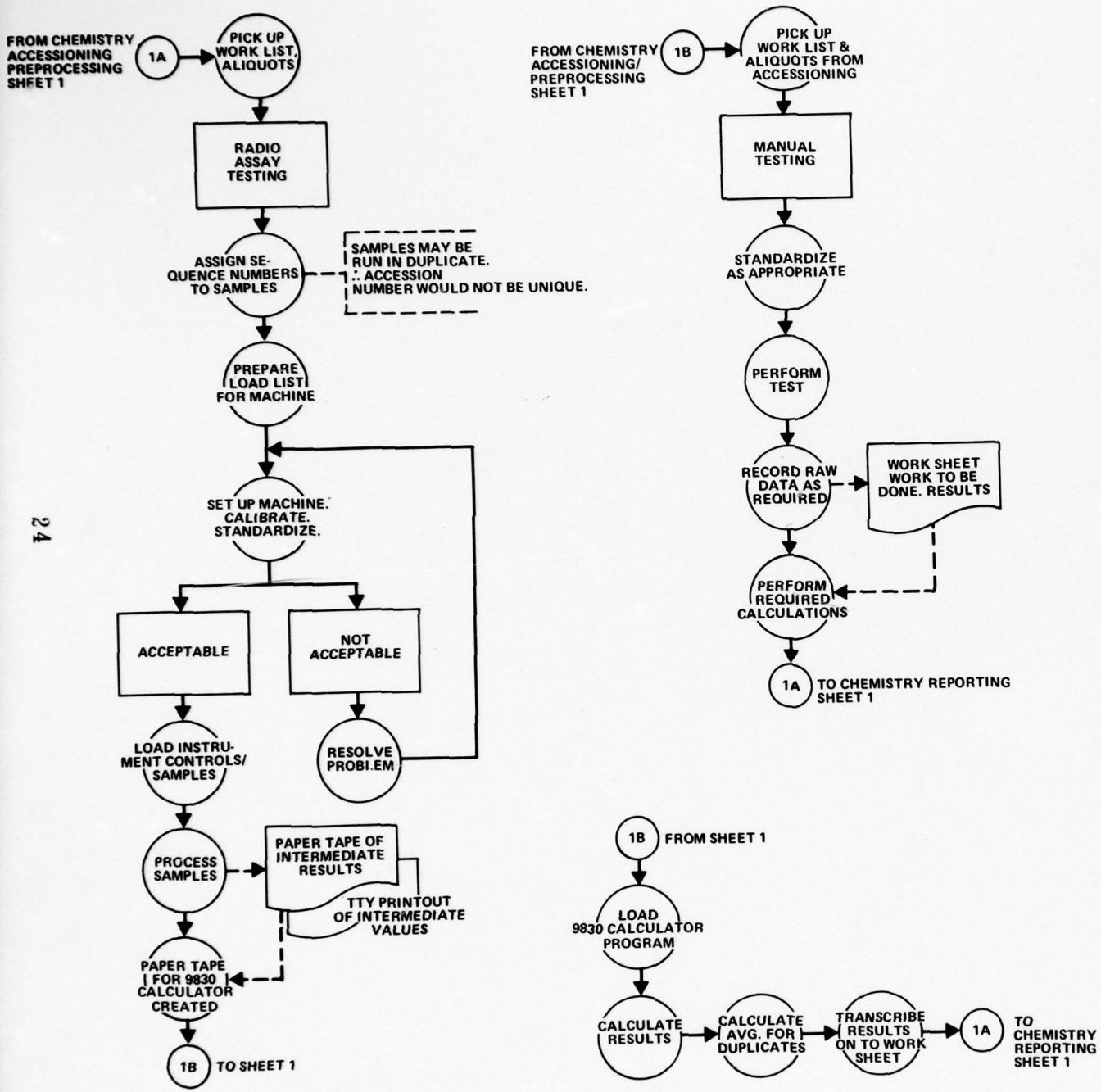
LABORATORY
CHEMISTRY ACCESSIONING/PREPROCESSING
SHEET 1 OF 1 13 JAN 76



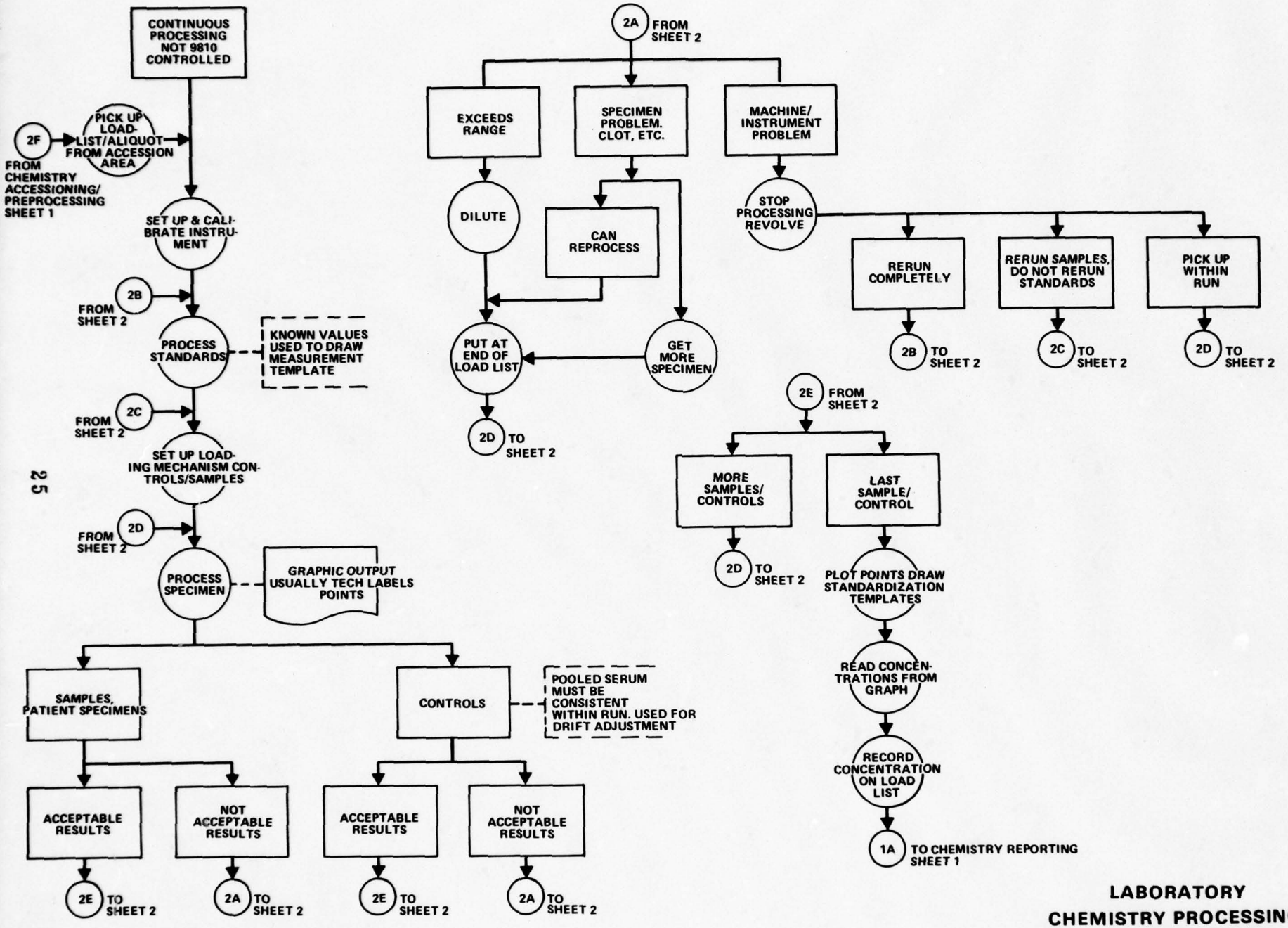
LABORATORY
OUTPATIENT LABORATORY PROCEDURE
SHEET 1 OF 2 13 JAN 76



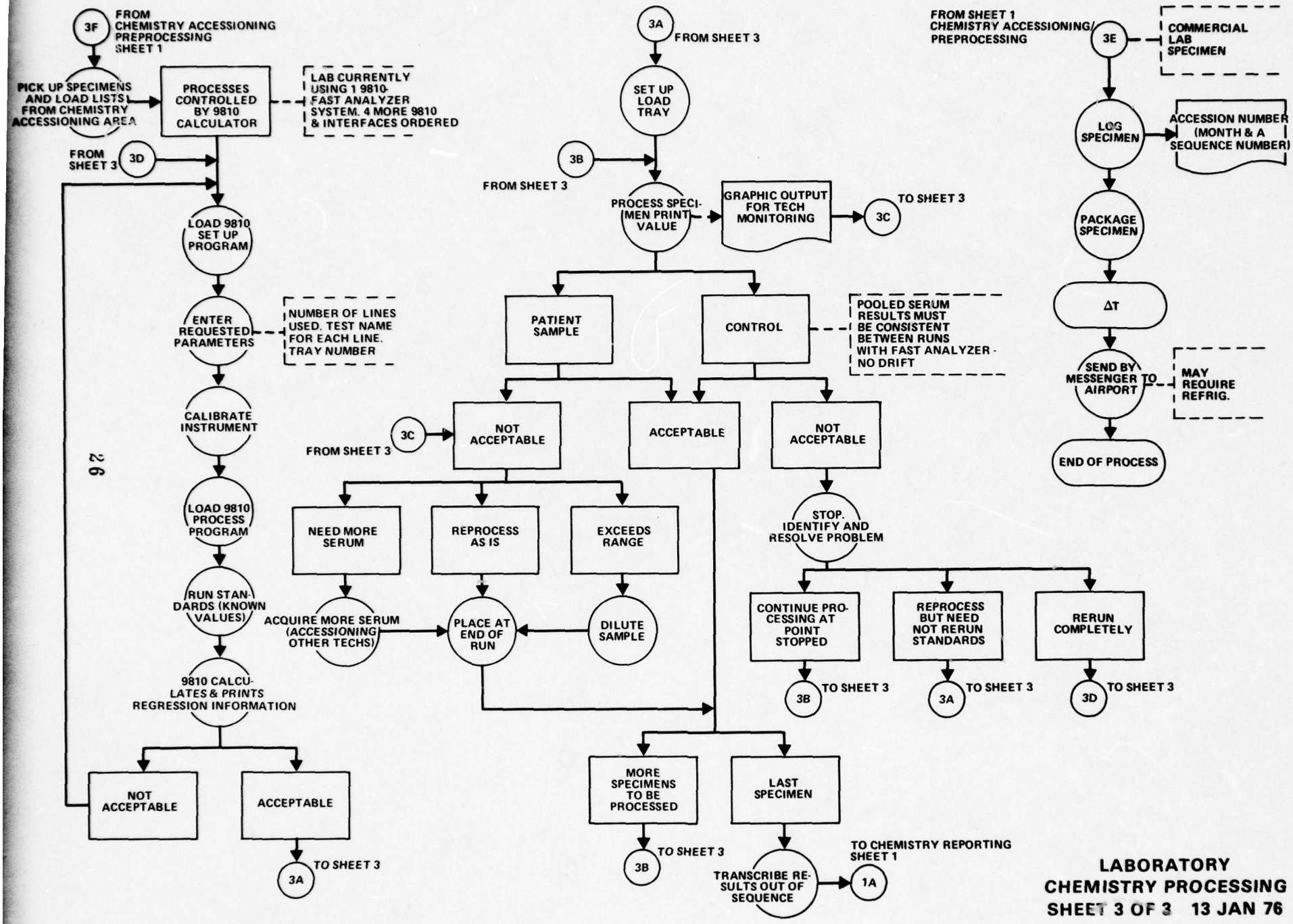
LABORATORY
OUTPATIENT LABORATORY PROCEDURE
SHEET 2 OF 2 13 JAN 76

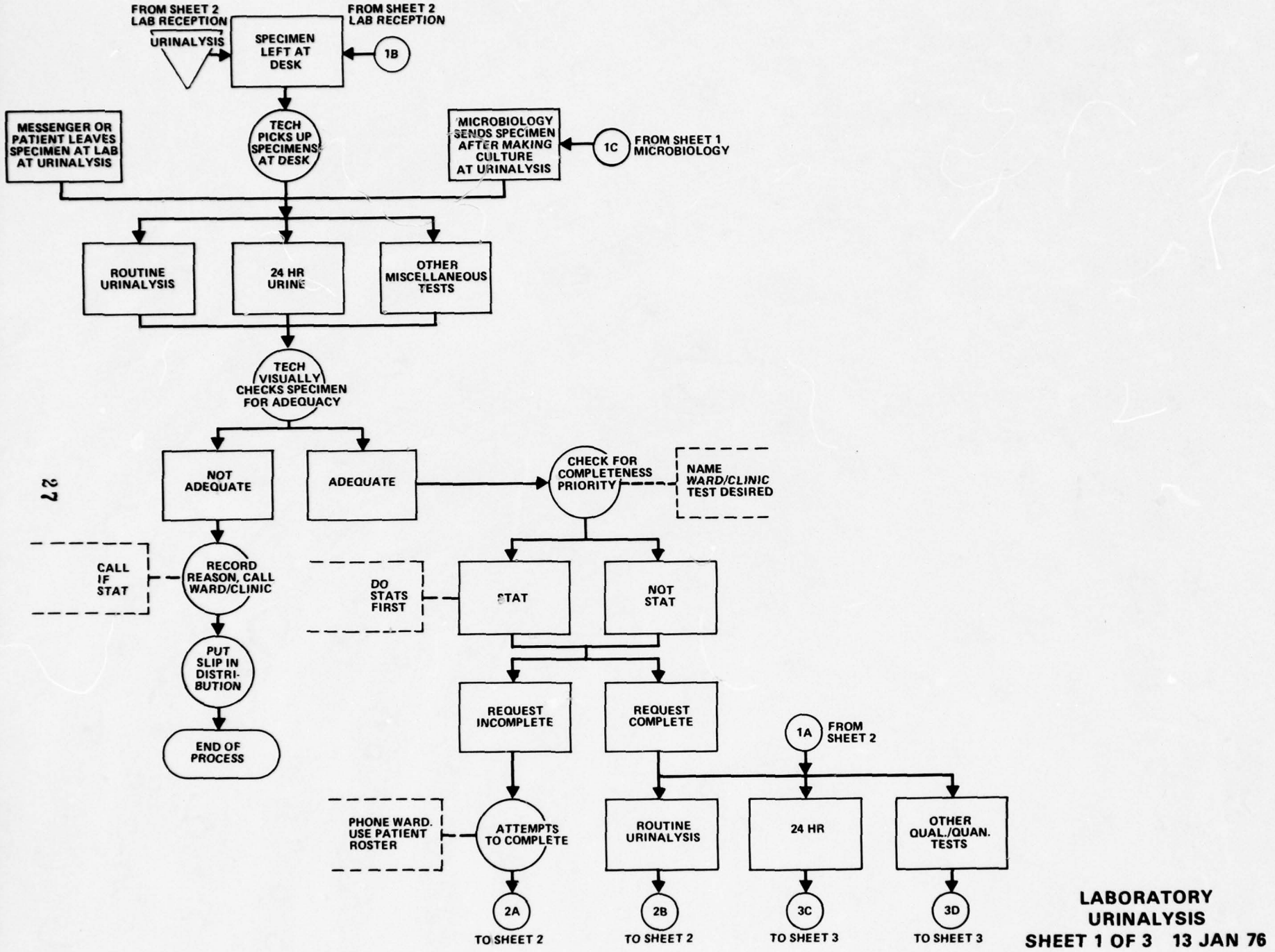


LABORATORY
CHEMISTRY PROCESSING
SHEET 1 OF 3 13 JAN 76

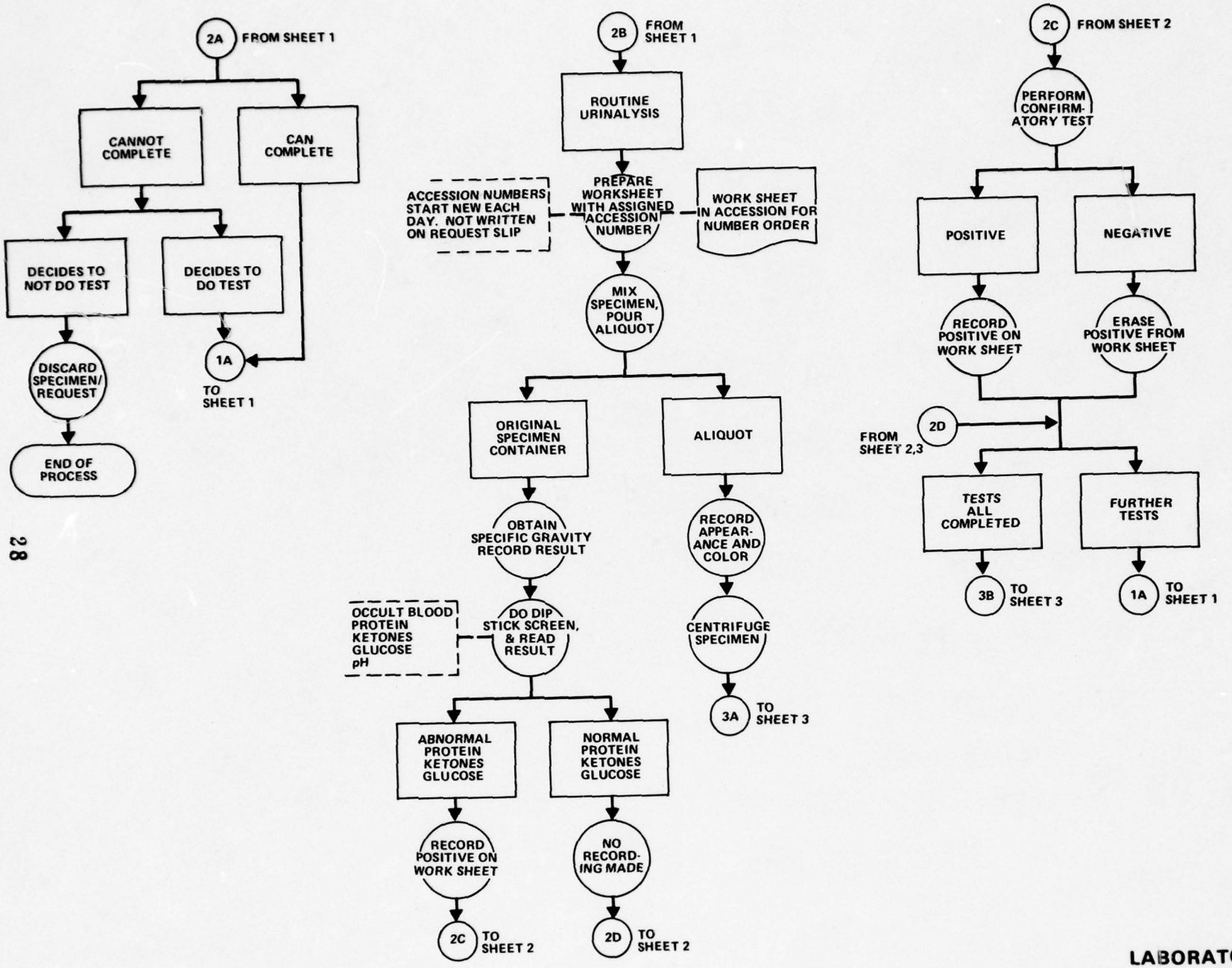


LABORATORY
CHEMISTRY PROCESSING
SHEET 2 OF 3 13 JAN 76

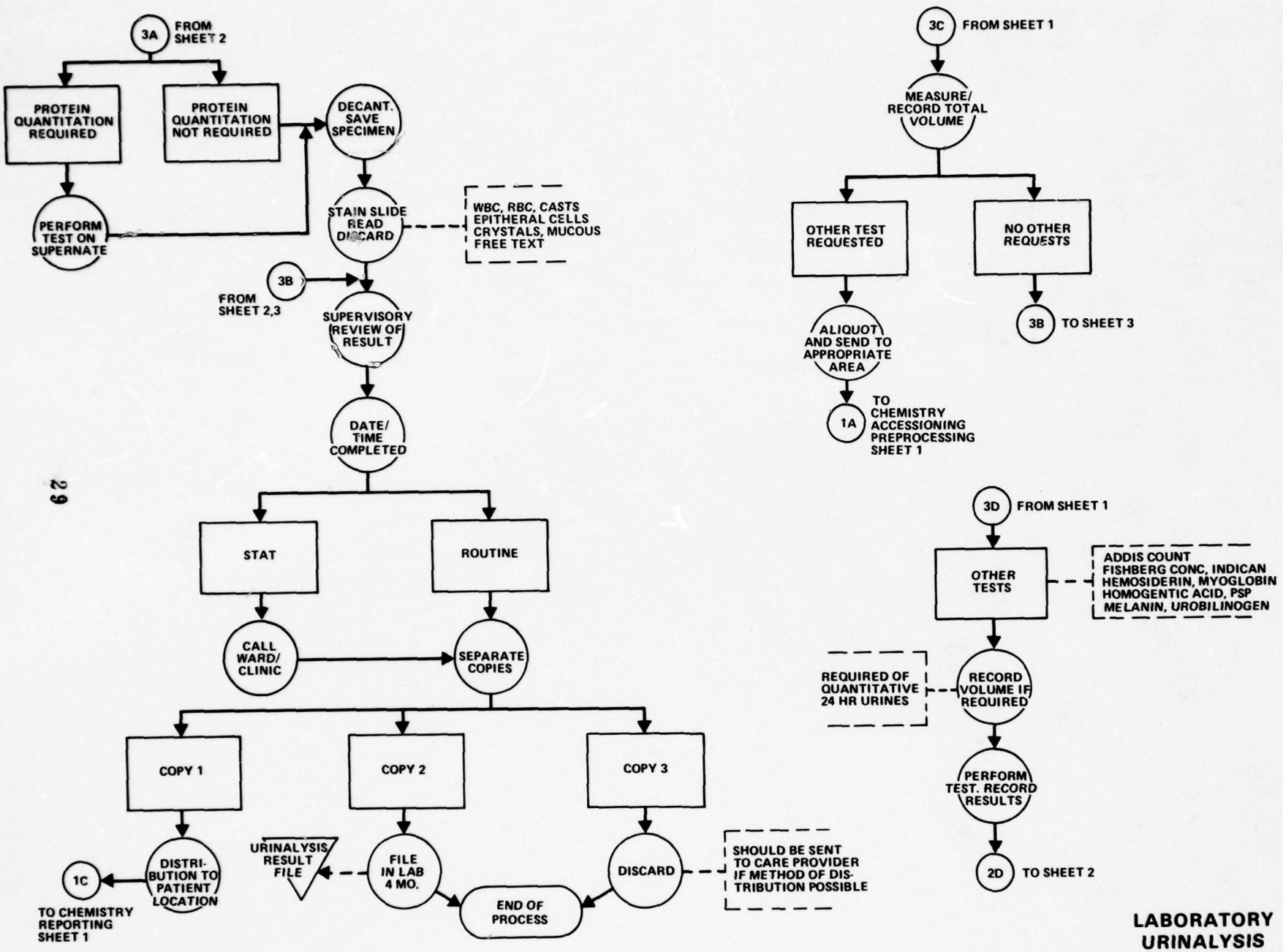

3F
FROM CHEMISTRY ACCESSIONING PREPROCESSING SHEET 1
PICK UP SPECIMENS AND LOAD LISTS FROM CHEMISTRY ACCESSIONING AREA
PROCESSES CONTROLLED BY 9810 CALCULATOR
LAB CURRENTLY USING 1 9810-FAST ANALYZER SYSTEM. 4 MORE 9810 & INTERFACES ORDERED
FROM SHEET 3
3D
LOAD 9810 SET UP PROGRAM
ENTER REQUESTED PARAMETERS
NUMBER OF LINES USED. TEST NAME FOR EACH LINE. TRAY NUMBER
CALIBRATE INSTRUMENT
LOAD 9810 PROCESS PROGRAM
RUN STANDARDS (KNOWN VALUES)
9810 CALCULATES & PRINTS REGRESSION INFORMATION
NOT ACCEPTABLE
ACCEPTABLE
TO SHEET 3
3A
3A
FROM SHEET 3
SET UP LOAD TRAY
3B
FROM SHEET 3
PROCESS SPECIMEN PRINT VALUE
GRAPHIC OUTPUT FOR TECH MONITORING
TO SHEET 3
3C
PATIENT SAMPLE
CONTROL
POOLED SERUM RESULTS MUST BE CONSISTENT BETWEEN RUNS WITH FAST ANALYZER - NO DRIFT
3C
FROM SHEET 3
NOT ACCEPTABLE
ACCEPTABLE
NOT ACCEPTABLE
NEED MORE SERUM
REPROCESS AS IS
EXCEEDS RANGE
ACQUIRE MORE SERUM (ACCESSIONING OTHER TECHS)
PLACE AT END OF RUN
DILUTE SAMPLE
STOP. IDENTIFY AND RESOLVE PROBLEM
CONTINUE PROCESSING AT POINT STOPPED
REPROCESS BUT NEED NOT RERUN STANDARDS
RERUN COMPLETELY
3B
TO SHEET 3
3A
TO SHEET 3
3D
TO SHEET 3
MORE SPECIMENS TO BE PROCESSED
LAST SPECIMEN
3B
TO SHEET 3
TRANSCRIBE RESULTS OUT OF SEQUENCE
TO CHEMISTRY REPORTING SHEET 1
1A
FROM SHEET 1 CHEMISTRY ACCESSIONING/ PREPROCESSING
3E
COMMERCIAL LAB SPECIMEN
LOG SPECIMEN
ACCESSION NUMBER (MONTH & A SEQUENCE NUMBER)
PACKAGE SPECIMEN
ΔT
SEND BY MESSENGER TO AIRPORT
MAY REQUIRE REFRIG.
END OF PROCESS
LABORATORY
CHEMISTRY PROCESSING
SHEET 3 OF 3 13 JAN 76



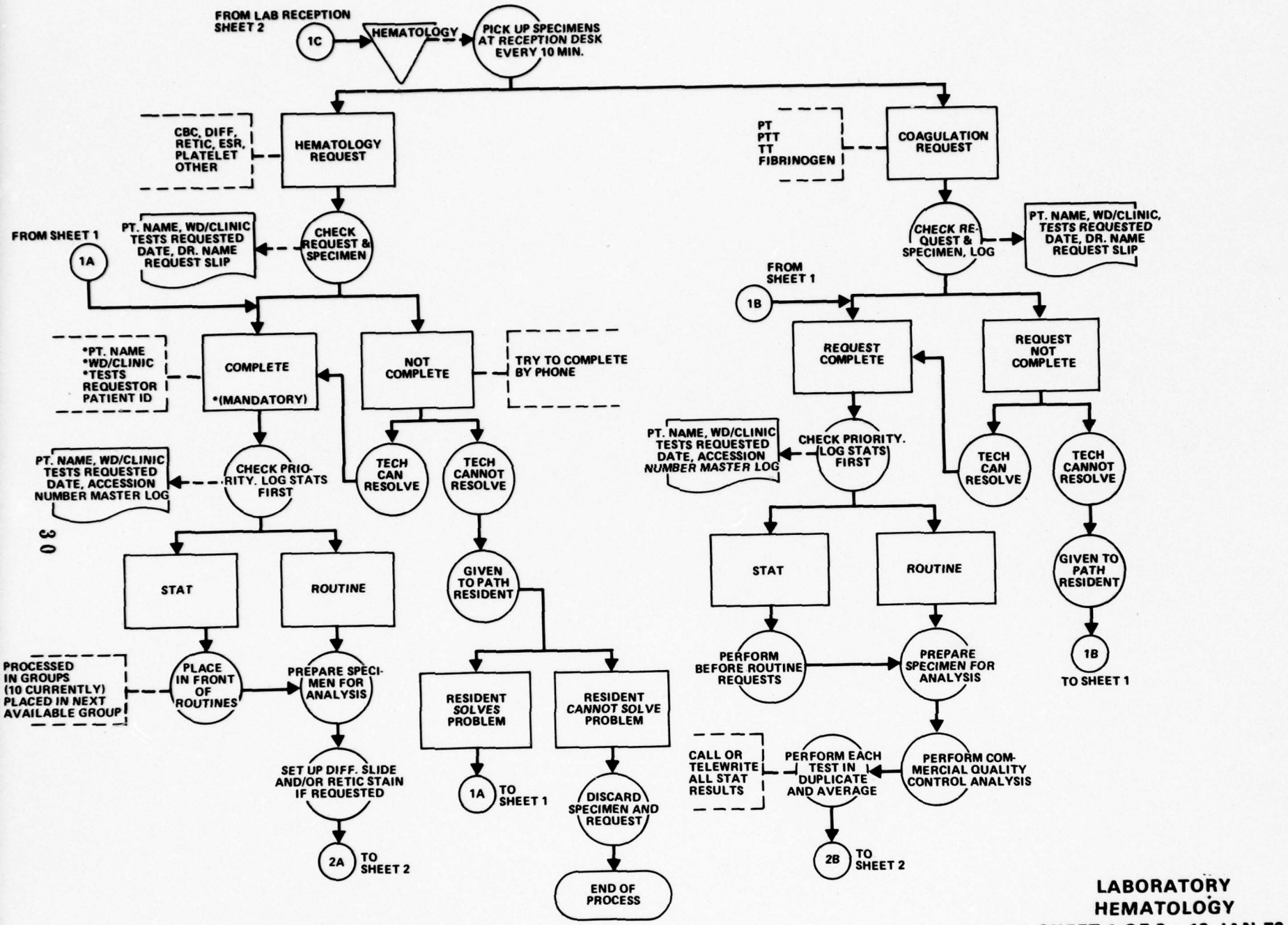
LABORATORY URINALYSIS
SHEET 1 OF 3 13 JAN 76



LABORATORY
URINALYSIS
SHEET 2 OF 3 13 JAN 76

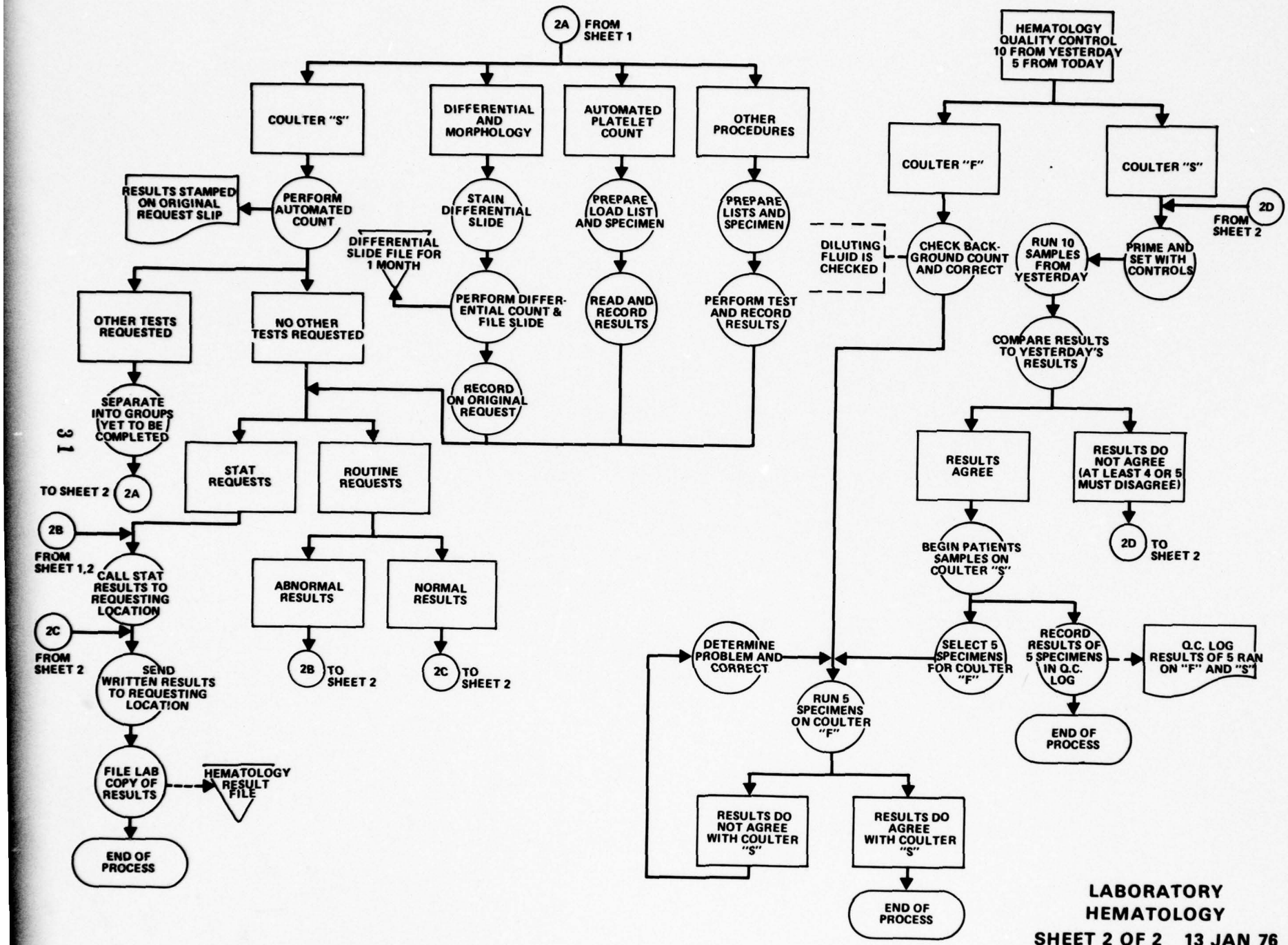


LABORATORY
URINALYSIS
SHEET 3 OF 3 13 JAN 76

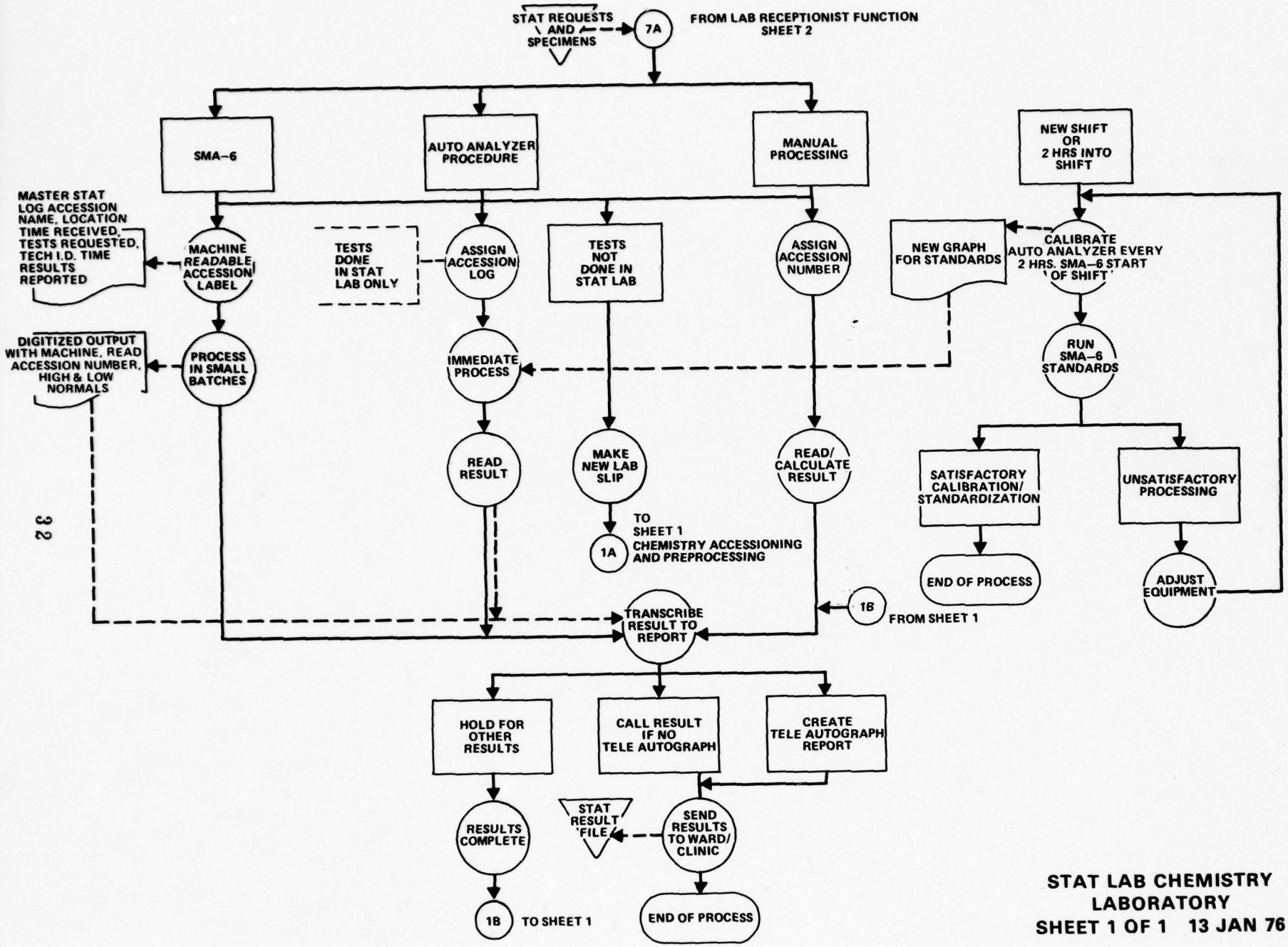


30

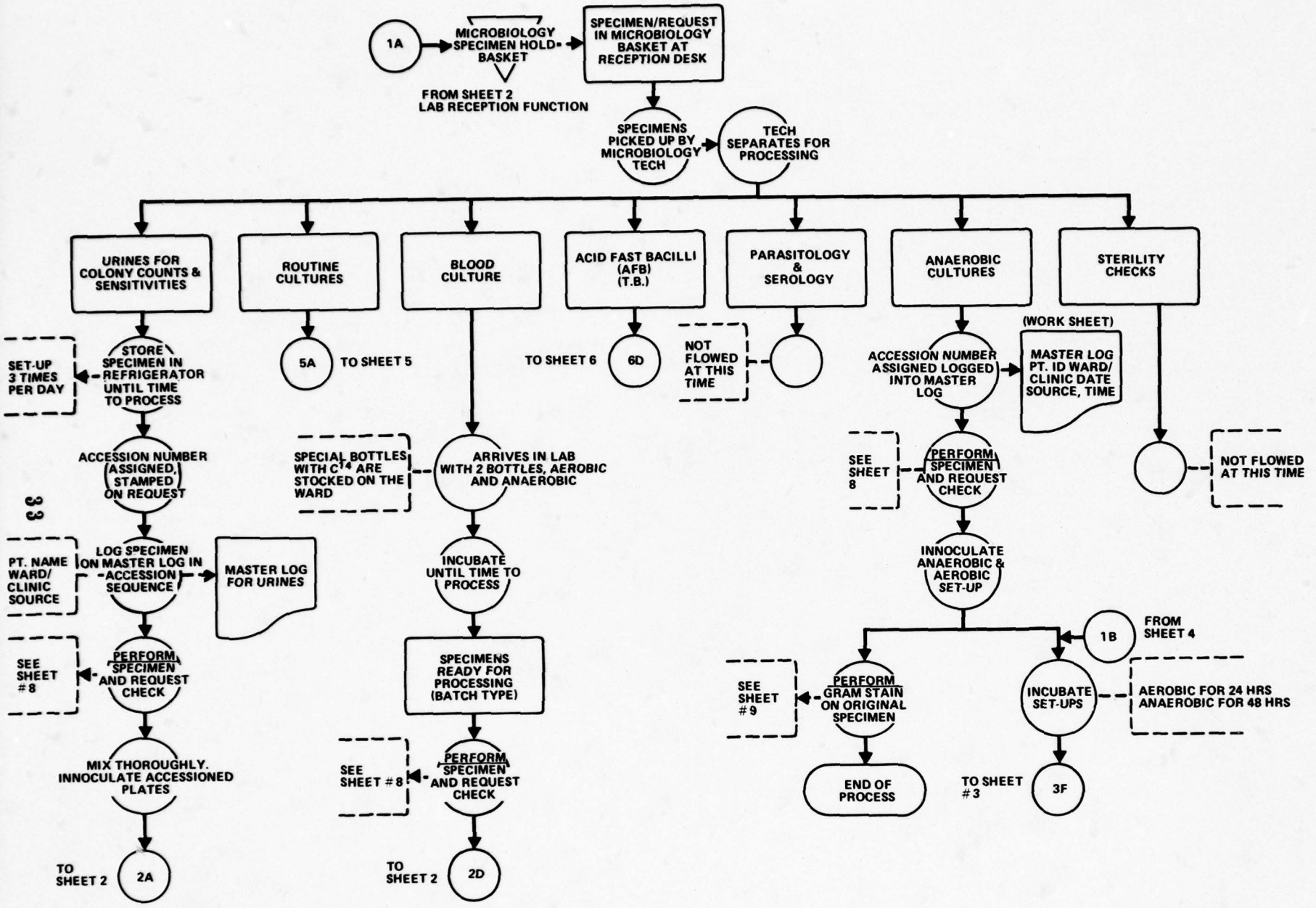
LABORATORY
HEMATOLOGY
SHEET 1 OF 2 13 JAN 76



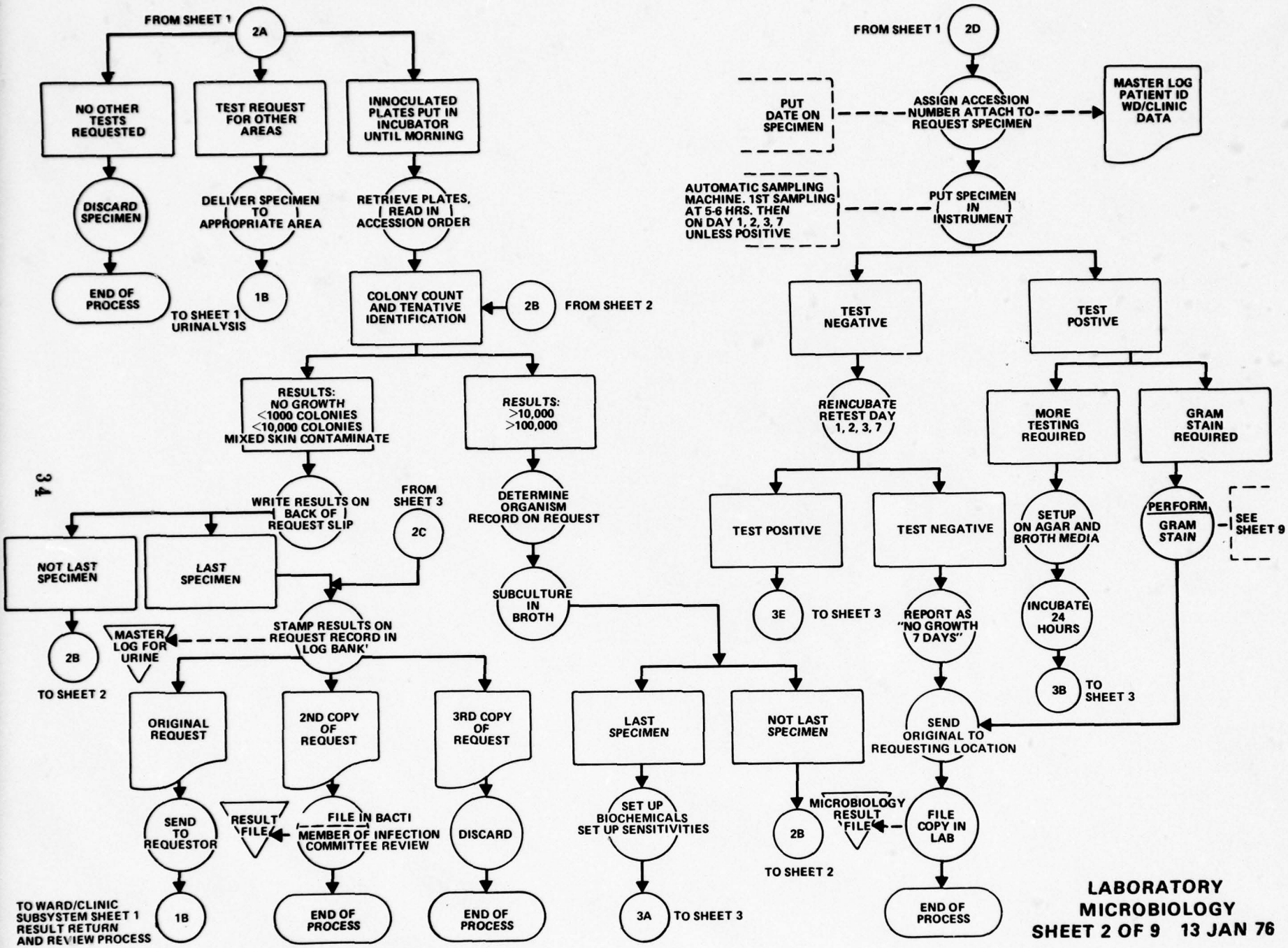
LABORATORY
HEMATOLOGY
SHEET 2 OF 2 13 JAN 76

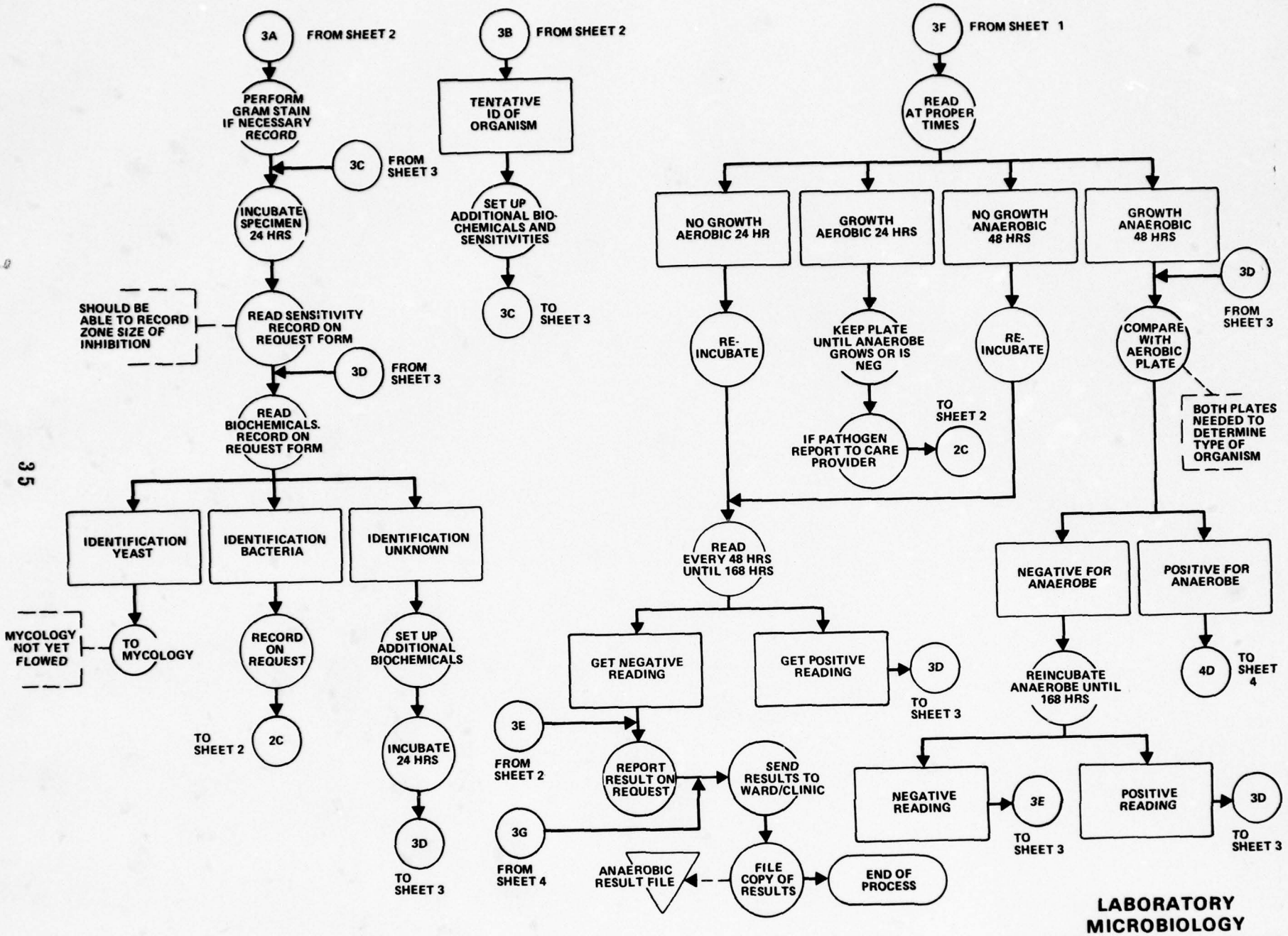


STAT LAB CHEMISTRY LABORATORY
SHEET 1 OF 1 13 JAN 76

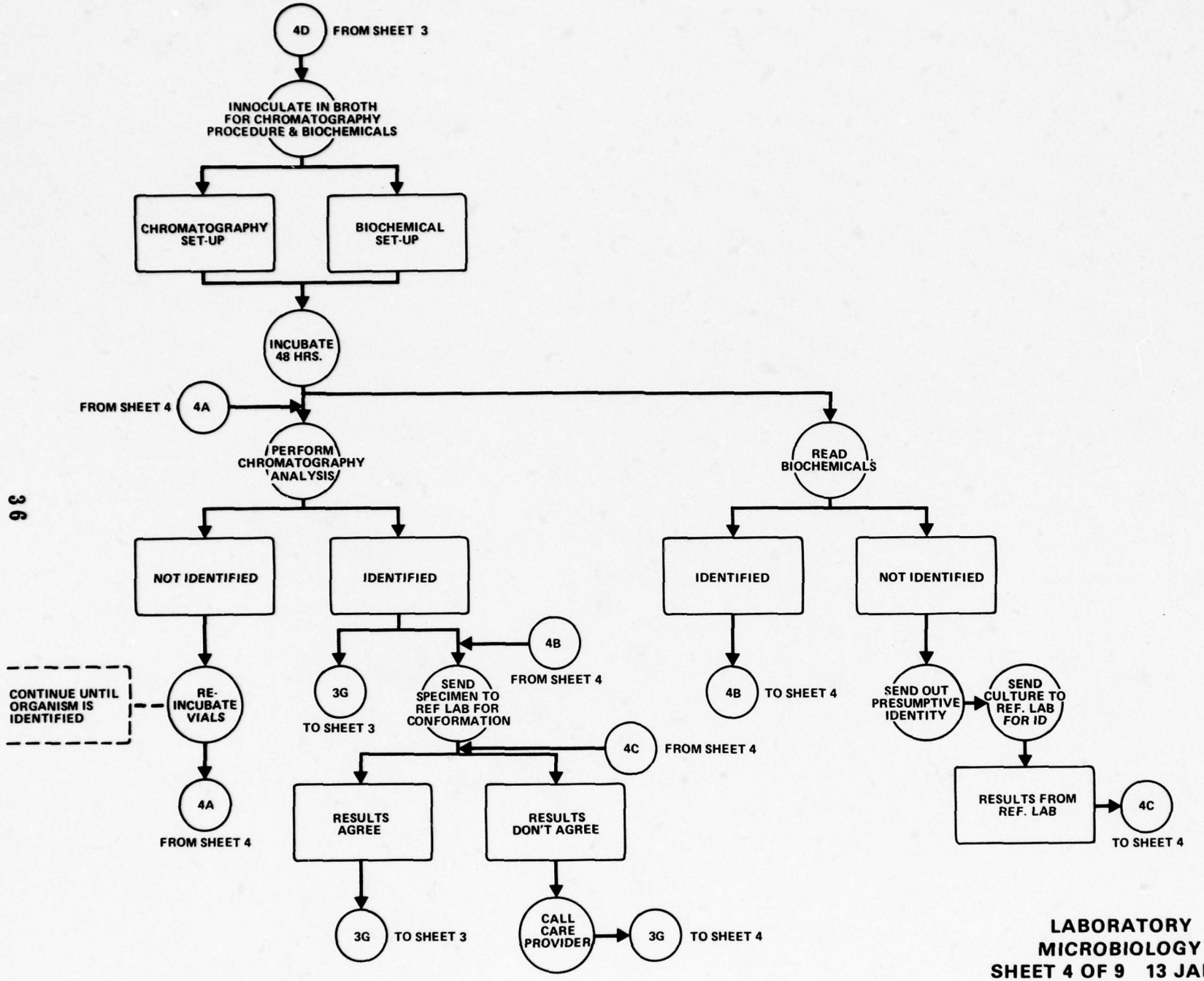


LABORATORY
MICROBIOLOGY
SHEET 1 OF 9 13 JAN 76

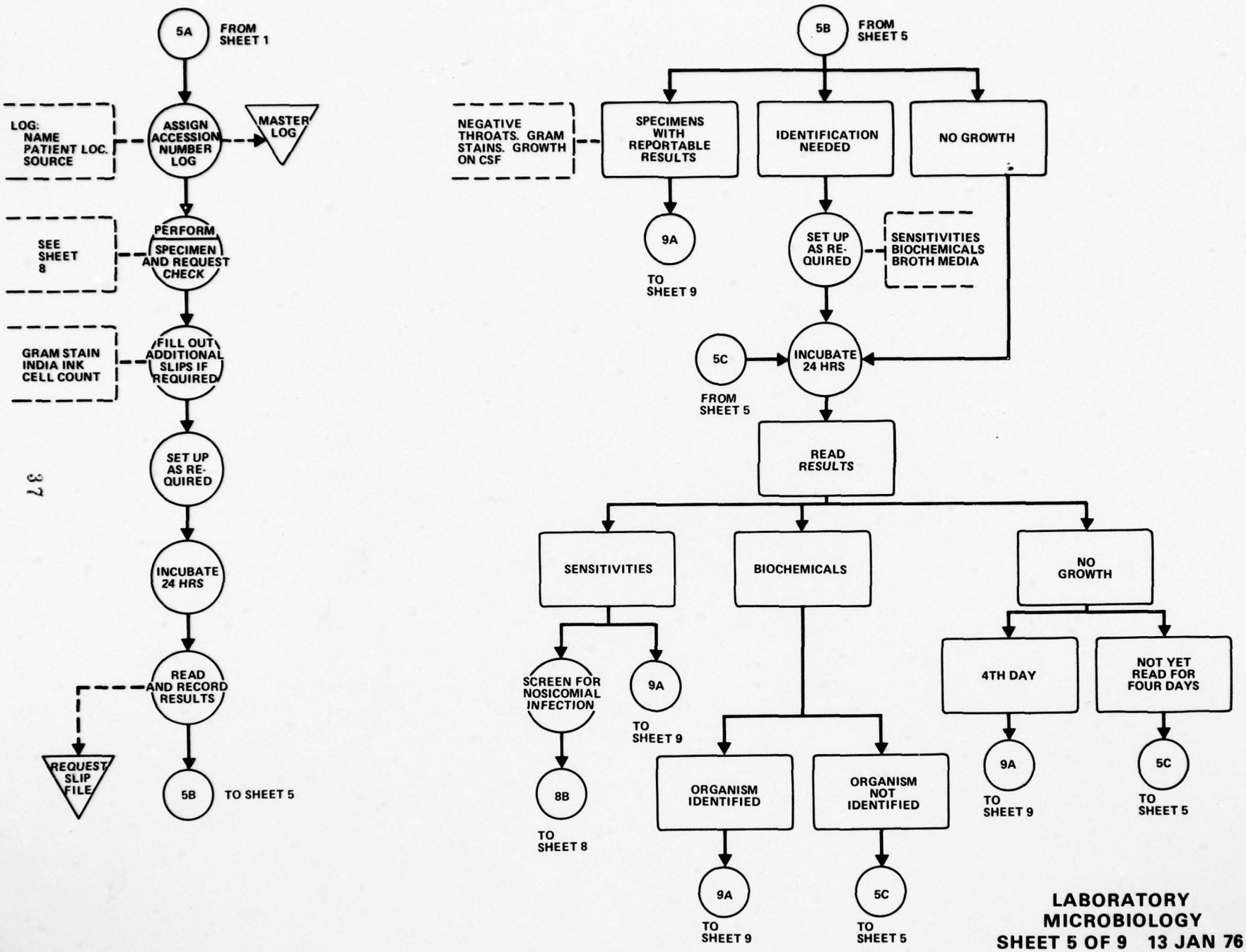

FROM SHEET 1
2A
NO OTHER TESTS REQUESTED
TEST REQUEST FOR OTHER AREAS
INNOCULATED PLATES PUT IN INCUBATOR UNTIL MORNING
DISCARD SPECIMEN
DELIVER SPECIMEN TO APPROPRIATE AREA
RETRIEVE PLATES, READ IN ACCESSION ORDER
END OF PROCESS
1B
TO SHEET 1 URINALYSIS
COLONY COUNT AND TENATIVE IDENTIFICATION
2B
FROM SHEET 2
RESULTS: NO GROWTH <1000 COLONIES <10,000 COLONIES MIXED SKIN CONTAMINATE
RESULTS: >10,000 >100,000
WRITE RESULTS ON BACK OF REQUEST SLIP
FROM SHEET 3
2C
DETERMINE ORGANISM RECORD ON REQUEST
NOT LAST SPECIMEN
LAST SPECIMEN
SUBCULTURE IN BROTH
2B
TO SHEET 2
MASTER LOG FOR URINE
STAMP RESULTS ON REQUEST RECORD IN LOG BANK'
ORIGINAL REQUEST
2ND COPY OF REQUEST
3RD COPY OF REQUEST
SEND TO REQUESTOR
RESULT FILE
FILE IN BACTI
MEMBER OF INFECTION COMMITTEE REVIEW
DISCARD
TO WARD/CLINIC SUBSYSTEM SHEET 1 RESULT RETURN AND REVIEW PROCESS
1B
END OF PROCESS
END OF PROCESS
LAST SPECIMEN
NOT LAST SPECIMEN
SET UP BIOCHEMICALS SET UP SENSITIVITIES
2B
TO SHEET 2
MICROBIOLOGY RESULT FILE
3A
TO SHEET 3
FROM SHEET 1
2D
PUT DATE ON SPECIMEN
ASSIGN ACCESSION NUMBER ATTACH TO REQUEST SPECIMEN
MASTER LOG PATIENT ID WD/CLINIC DATA
AUTOMATIC SAMPLING MACHINE. 1ST SAMPLING AT 5-6 HRS. THEN ON DAY 1, 2, 3, 7 UNLESS POSITIVE
PUT SPECIMEN IN INSTRUMENT
TEST NEGATIVE
TEST POSTIVE
REINCUBATE RETEST DAY 1, 2, 3, 7
MORE TESTING REQUIRED
GRAM STAIN REQUIRED
TEST POSITIVE
TEST NEGATIVE
SETUP ON AGAR AND BROTH MEDIA
PERFORM GRAM STAIN
SEE SHEET 9
3E
TO SHEET 3
REPORT AS "NO GROWTH 7 DAYS"
INCUBATE 24 HOURS
3B
TO SHEET 3
SEND ORIGINAL TO REQUESTING LOCATION
FILE COPY IN LAB
END OF PROCESS
LABORATORY MICROBIOLOGY
SHEET 2 OF 9 13 JAN 76
3-4



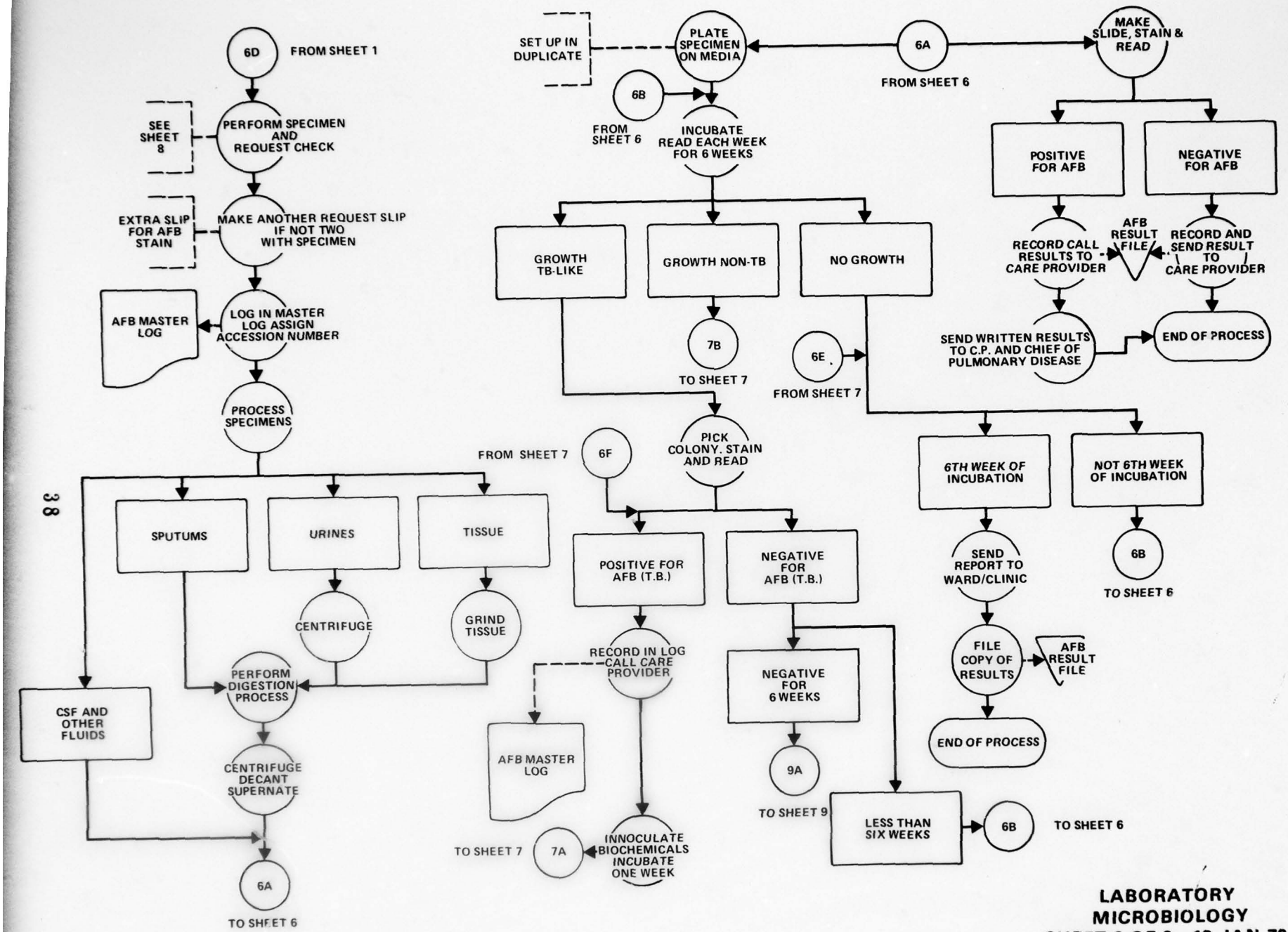
LABORATORY MICROBIOLOGY
SHEET 3 OF 9 13 JAN 76



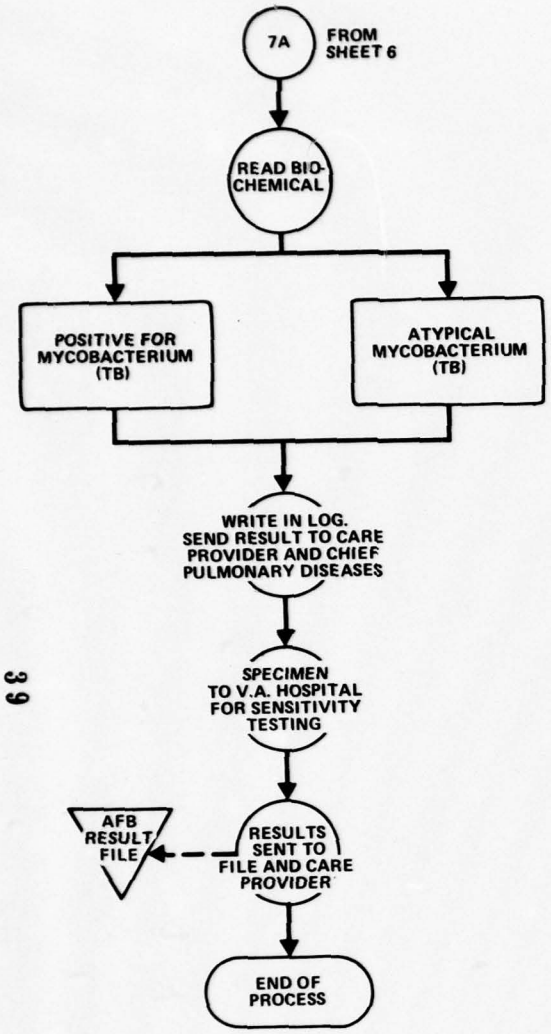
LABORATORY MICROBIOLOGY
SHEET 4 OF 9 13 JAN 76

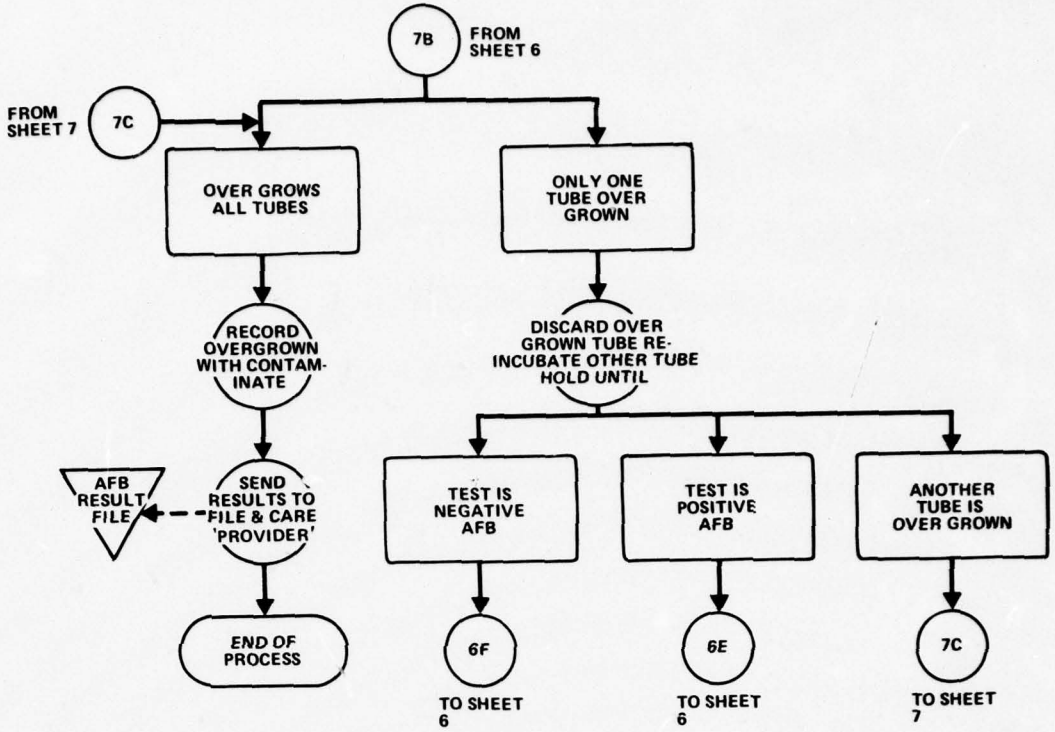


LABORATORY
MICROBIOLOGY
SHEET 5 OF 9 13 JAN 76

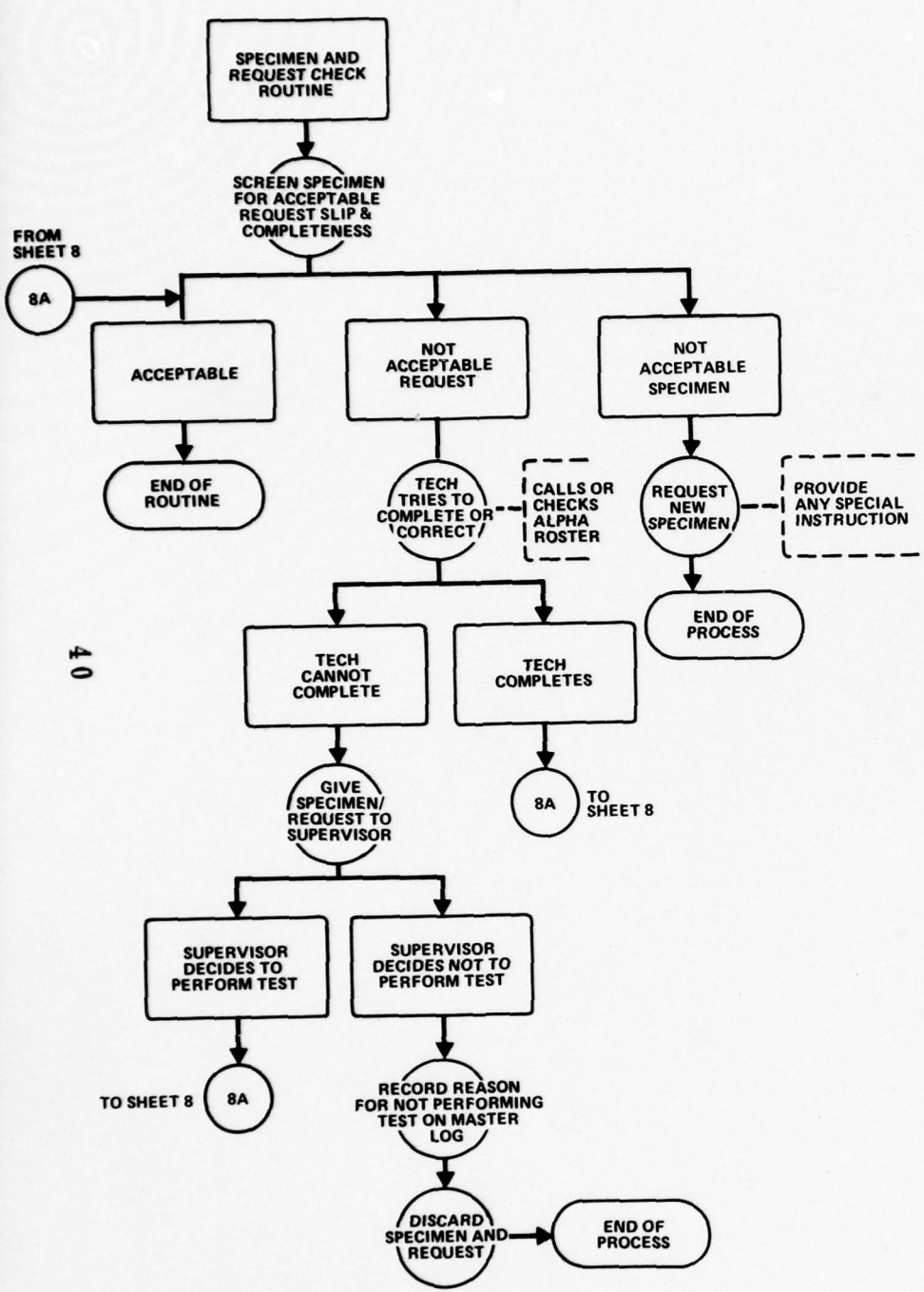


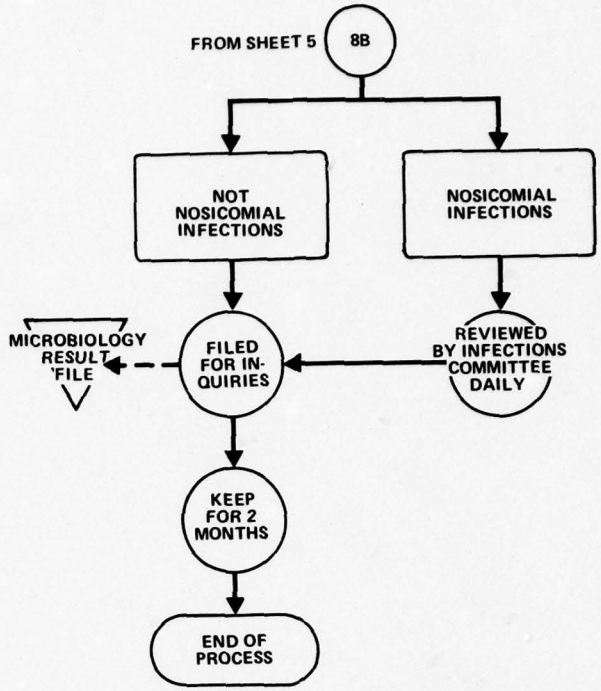
LABORATORY MICROBIOLOGY
SHEET 6 OF 9 13 JAN 76



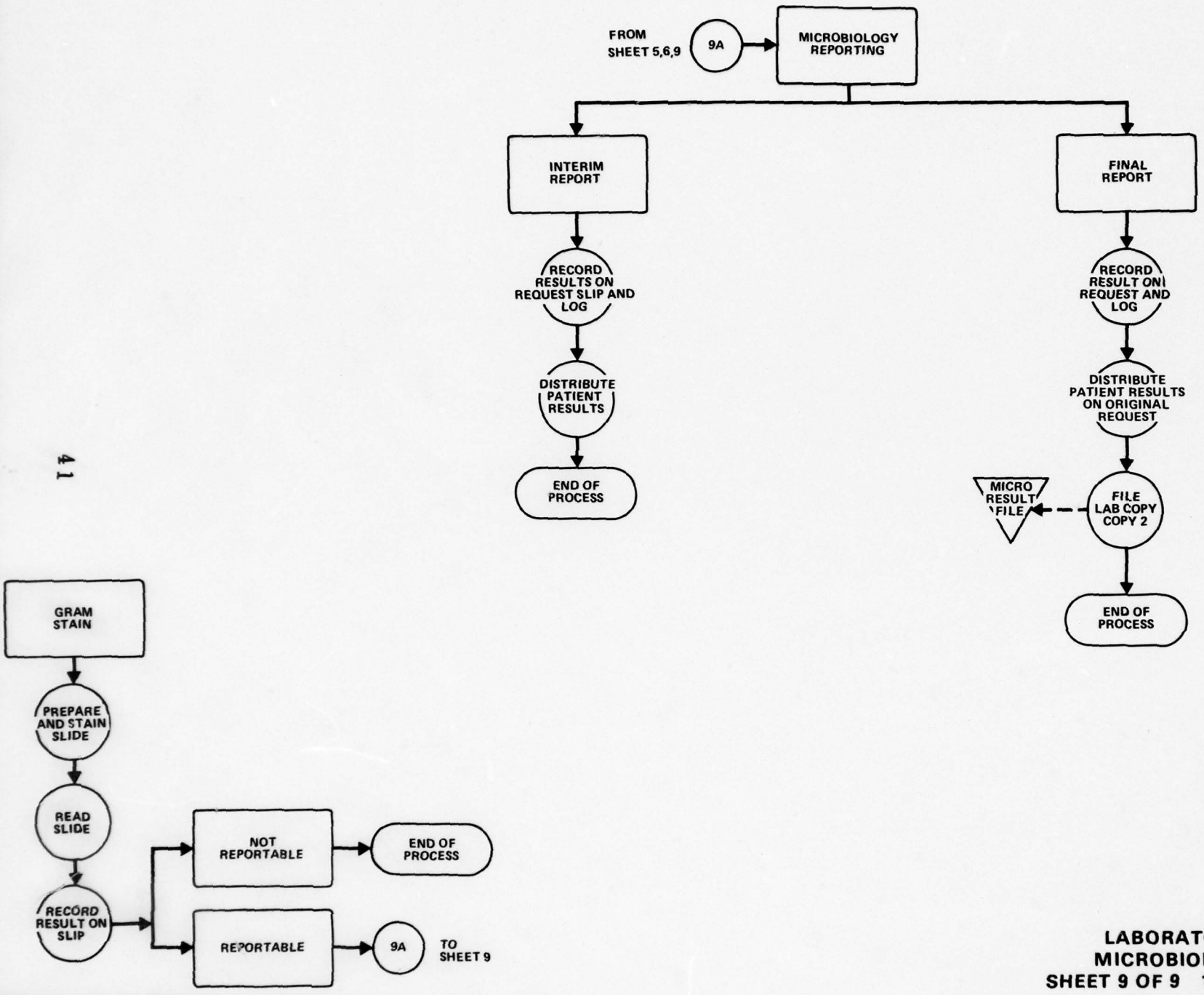


LABORATORY
MICROBIOLOGY
SHEET 7 OF 9 13 JAN 76

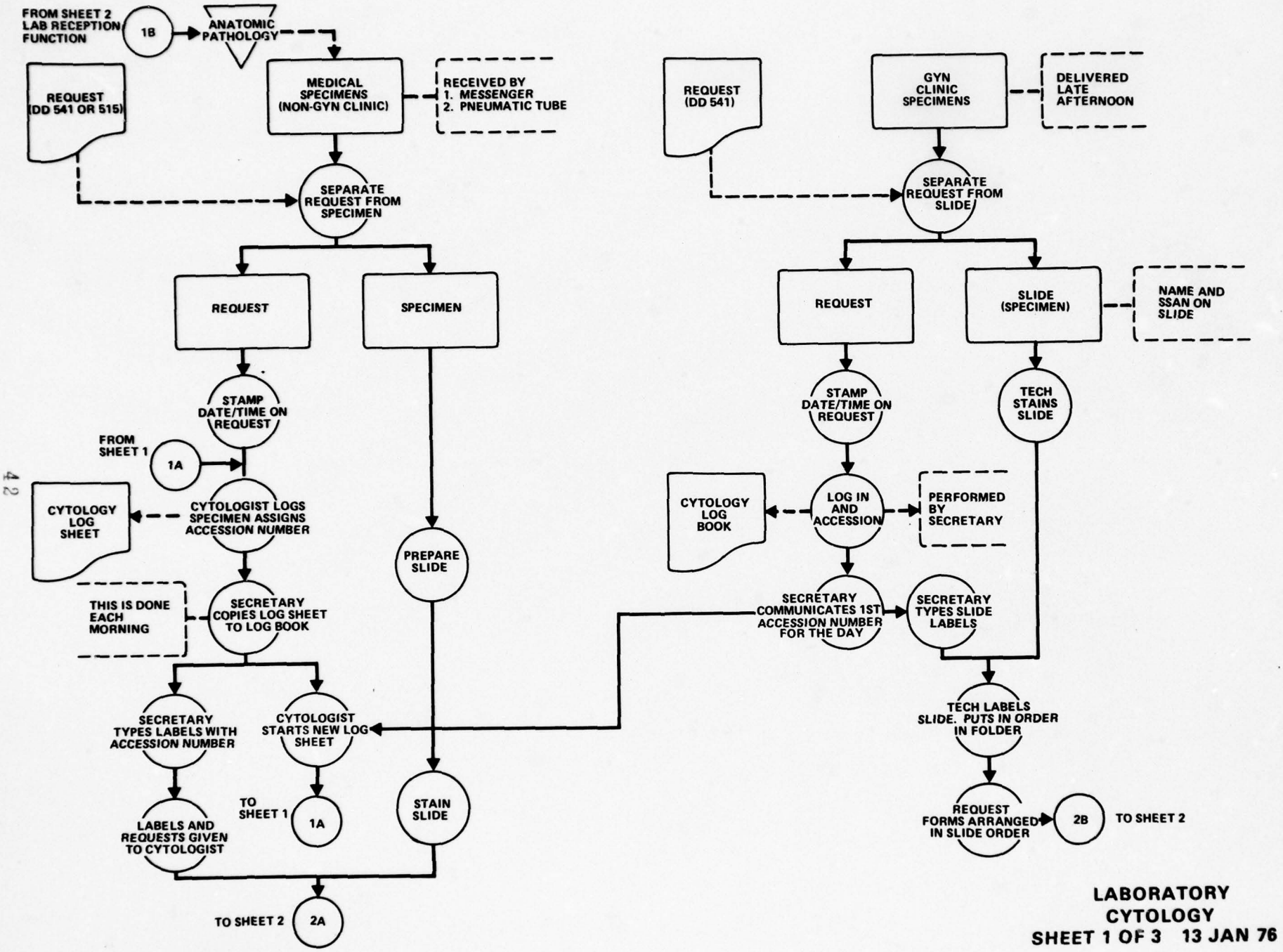




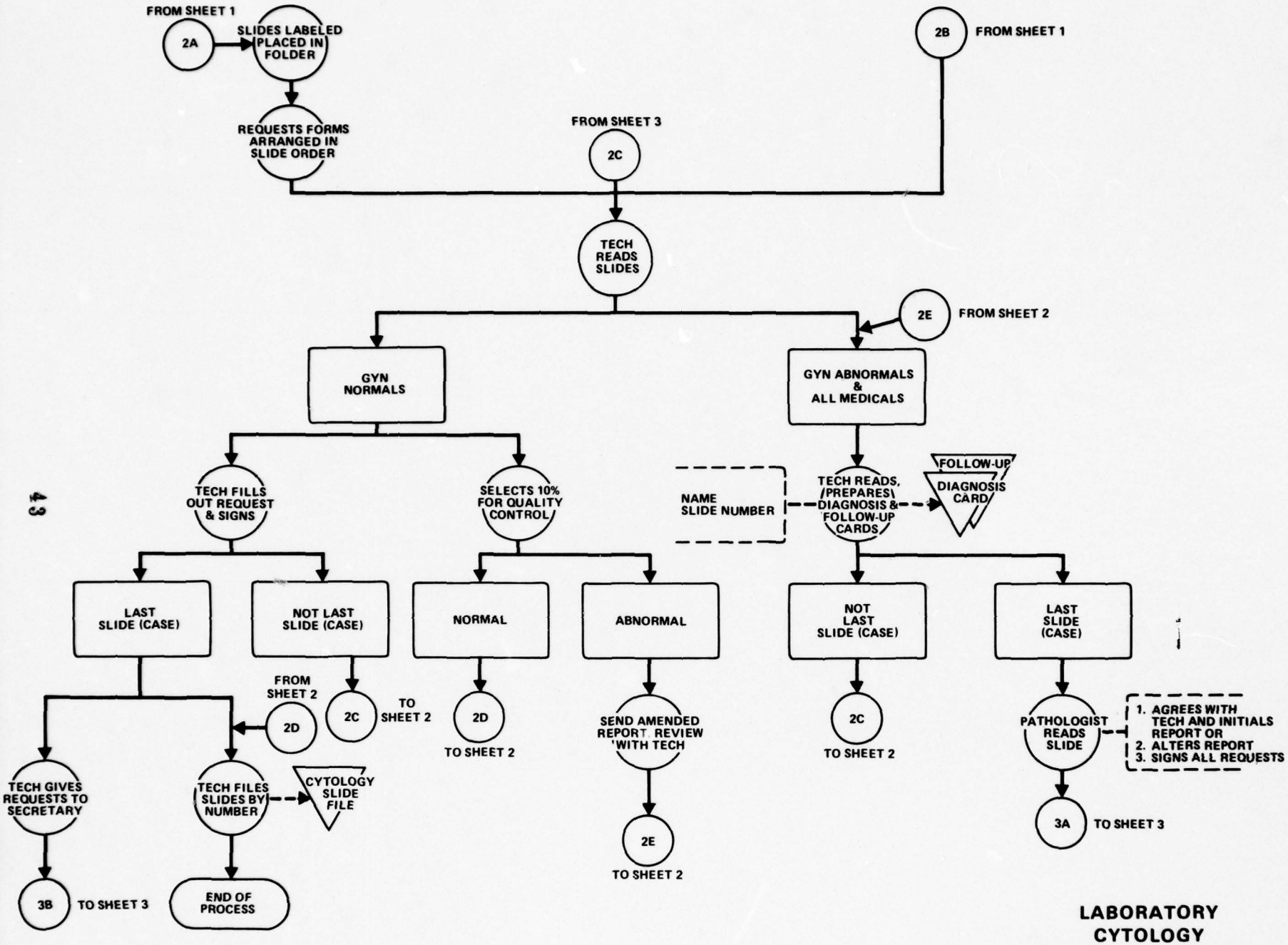
LABORATORY
MICROBIOLOGY
SHEET 8 OF 9 13 JAN 76



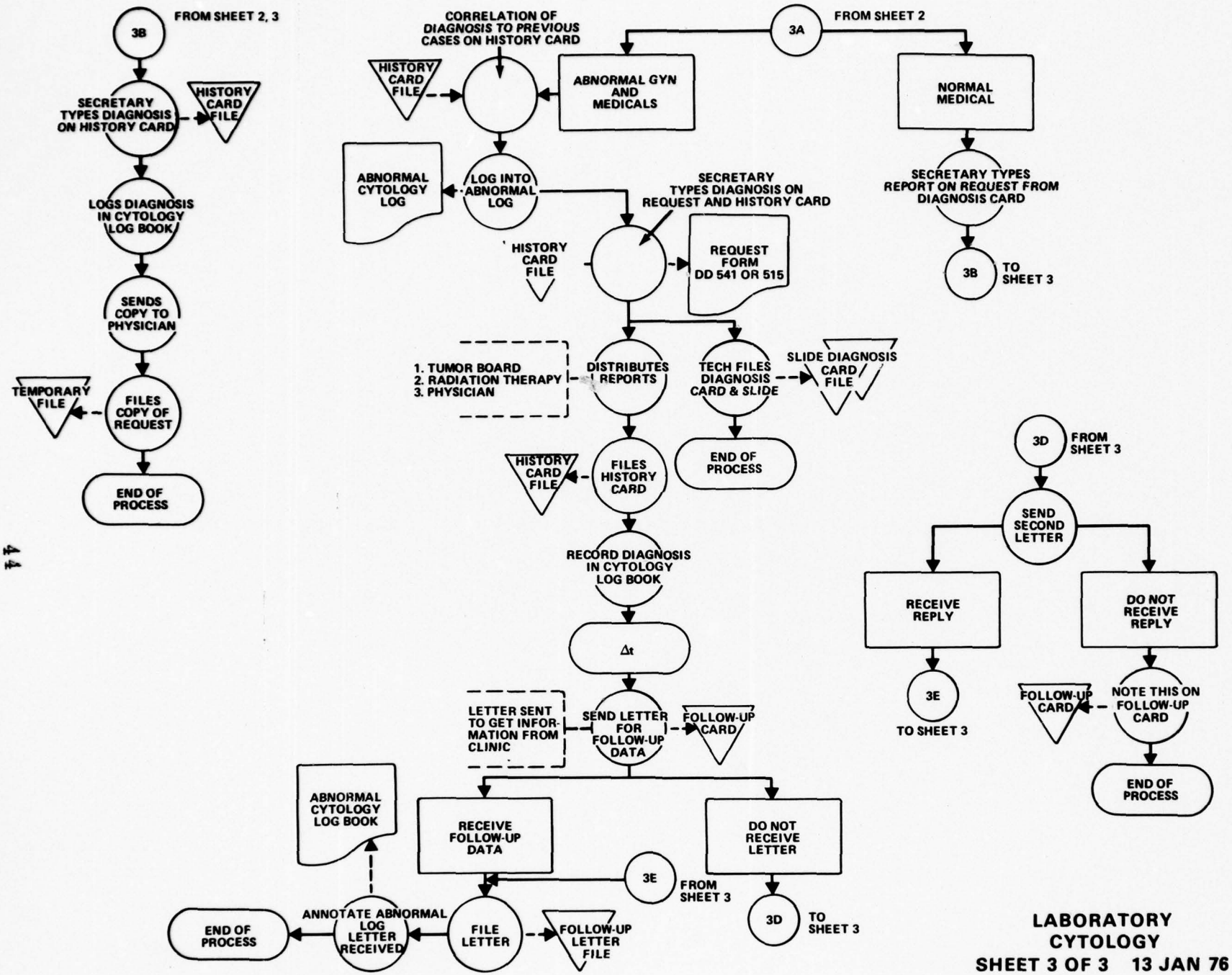
LABORATORY
MICROBIOLOGY
SHEET 9 OF 9 13 JAN 76



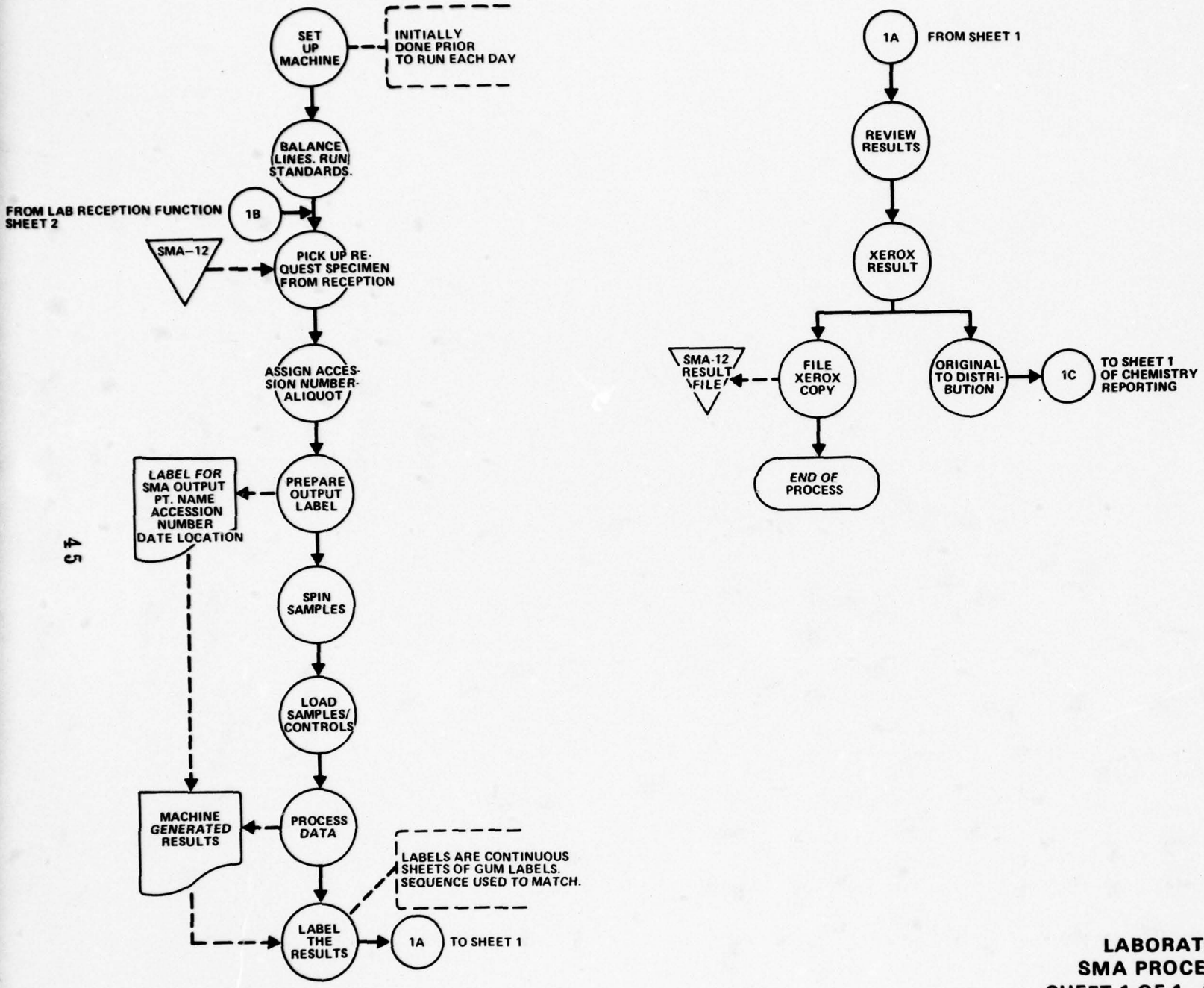
LABORATORY
CYTOLOGY
SHEET 1 OF 3 13 JAN 76



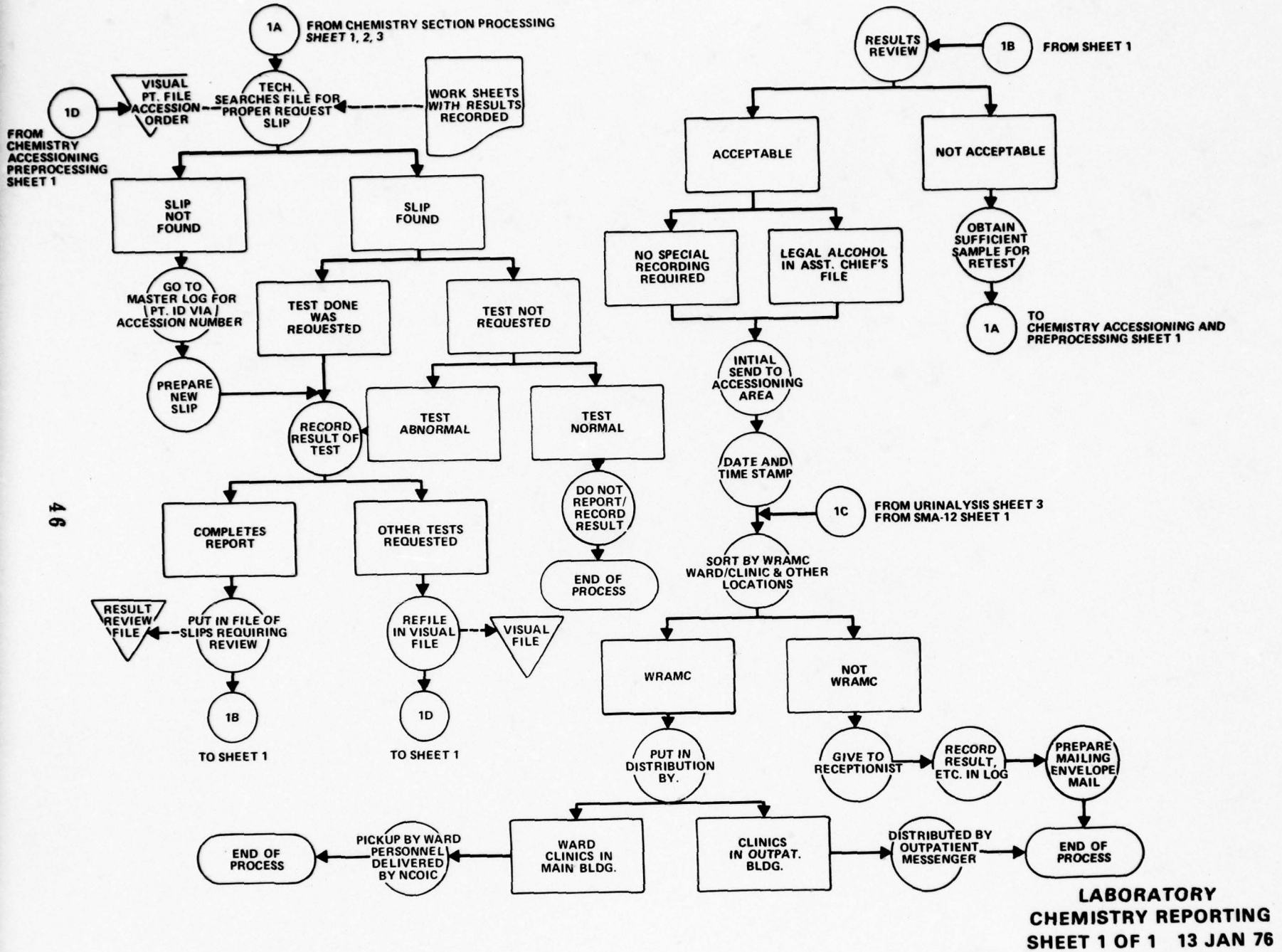
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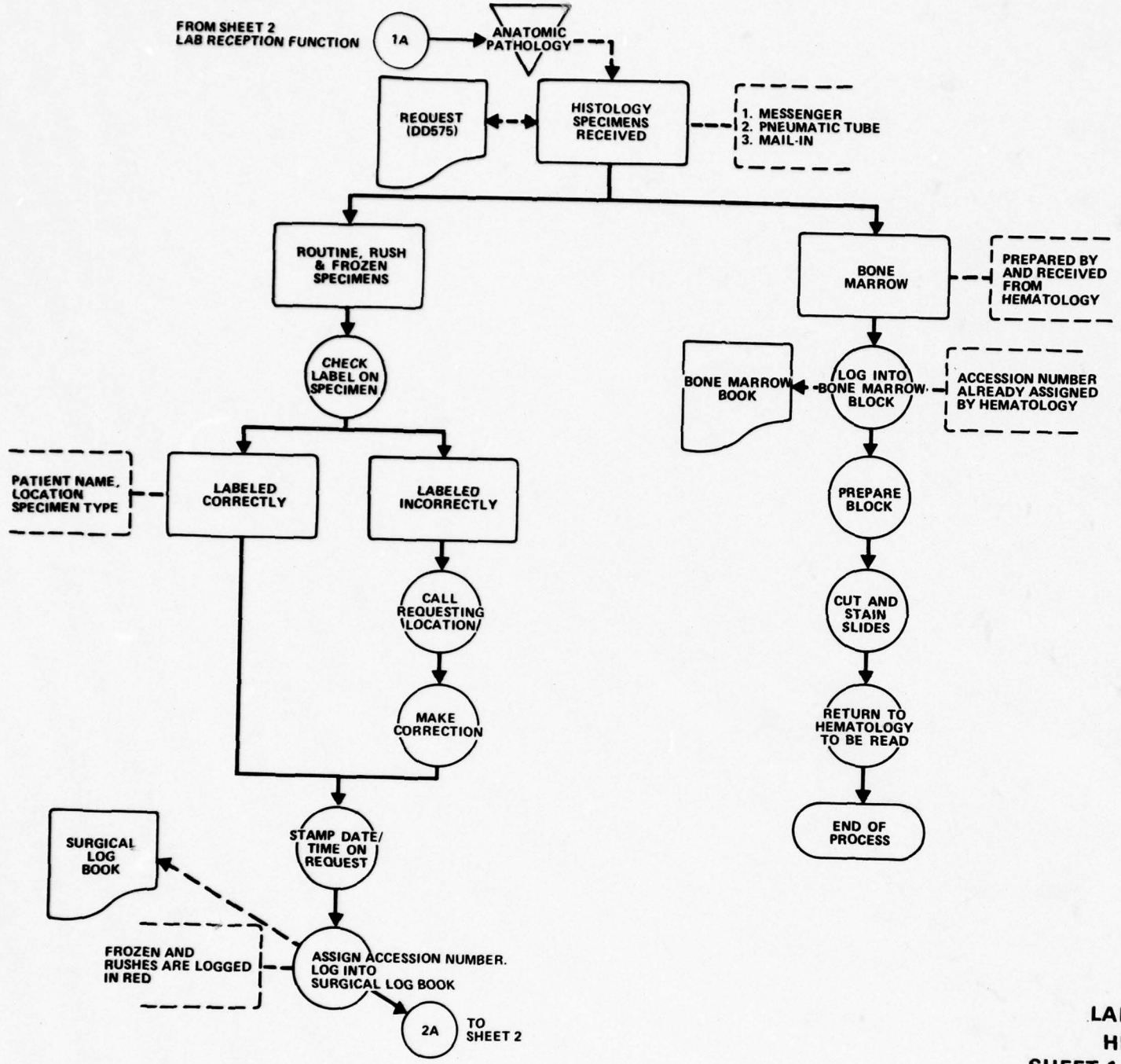
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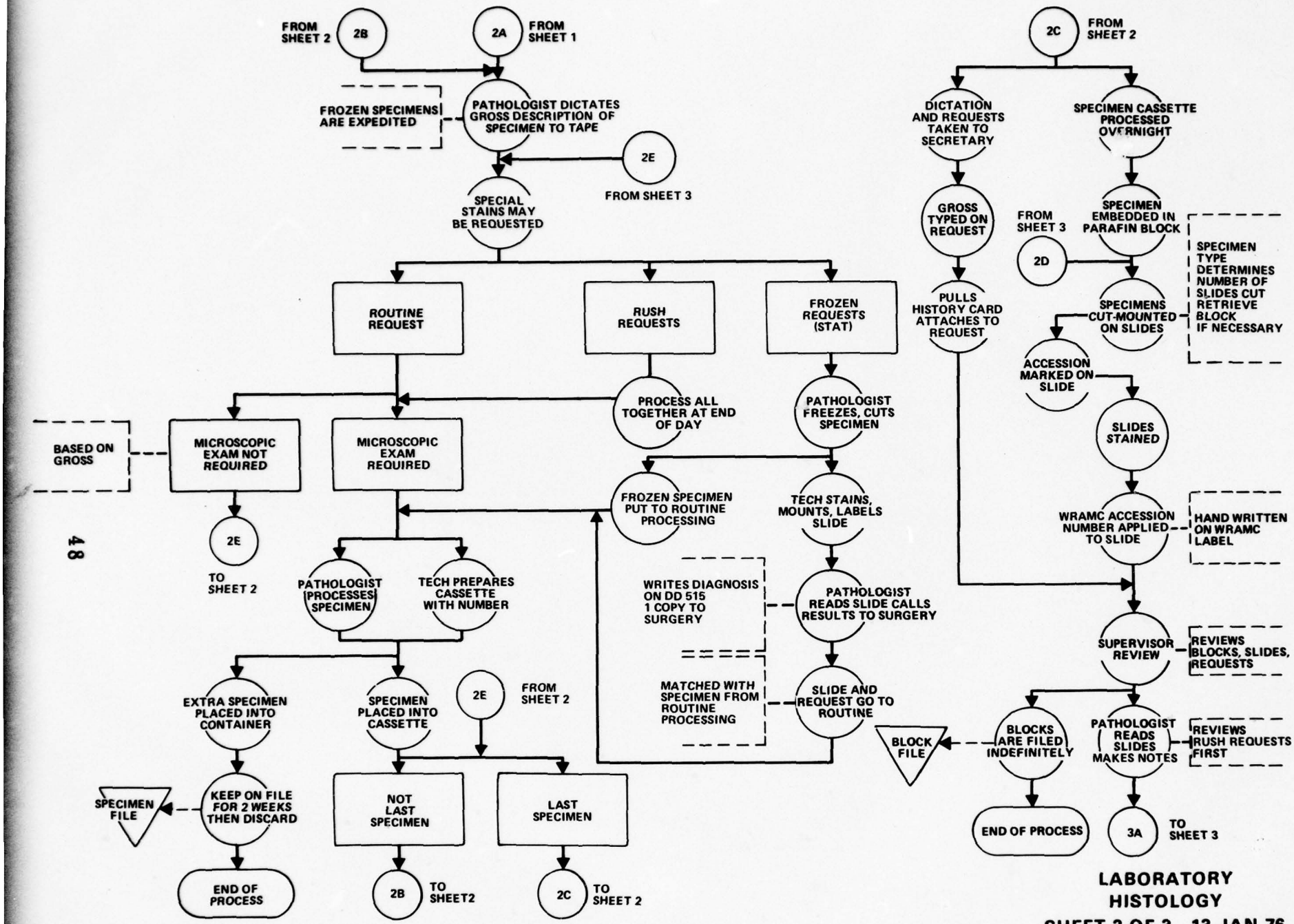
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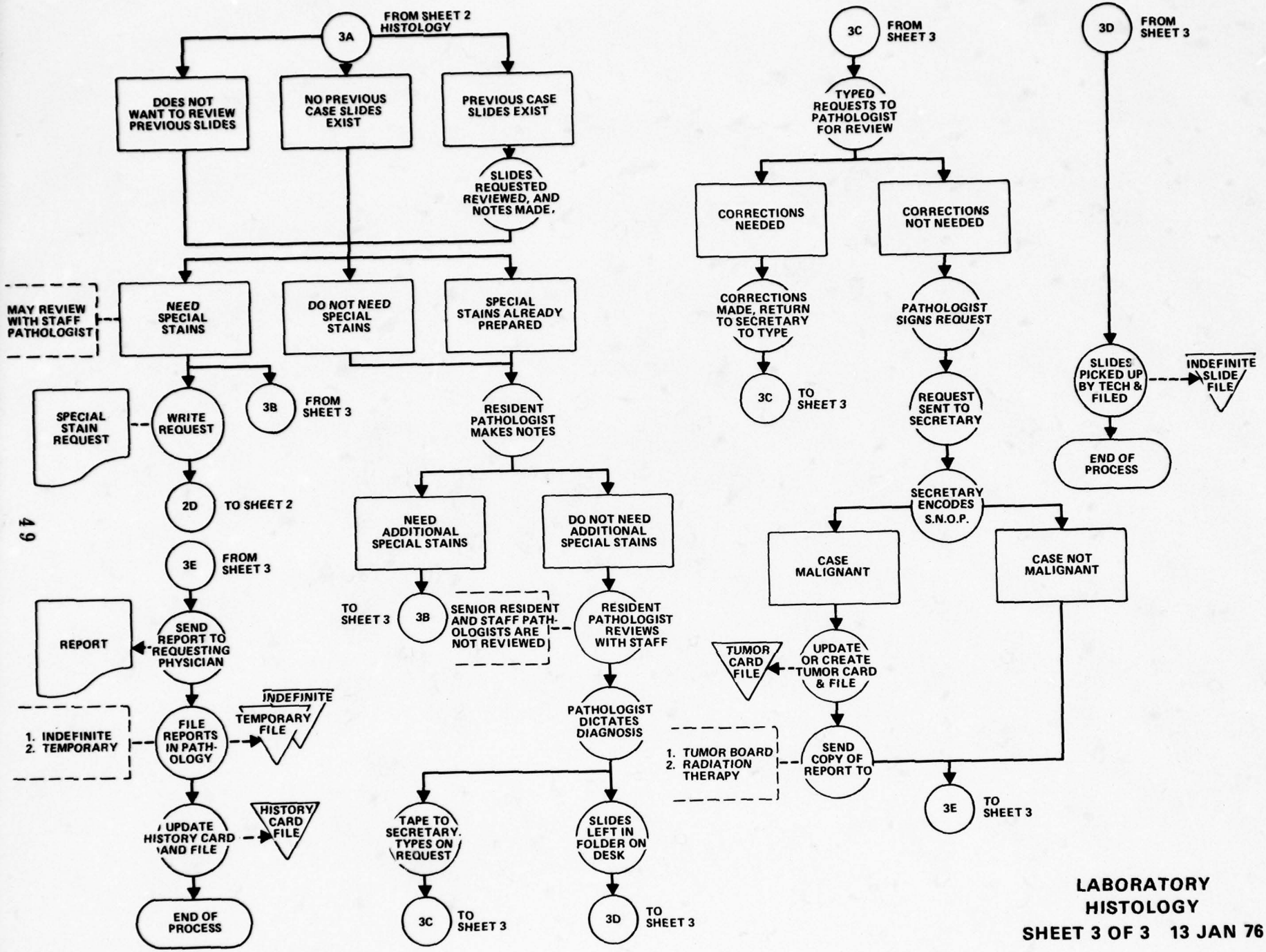


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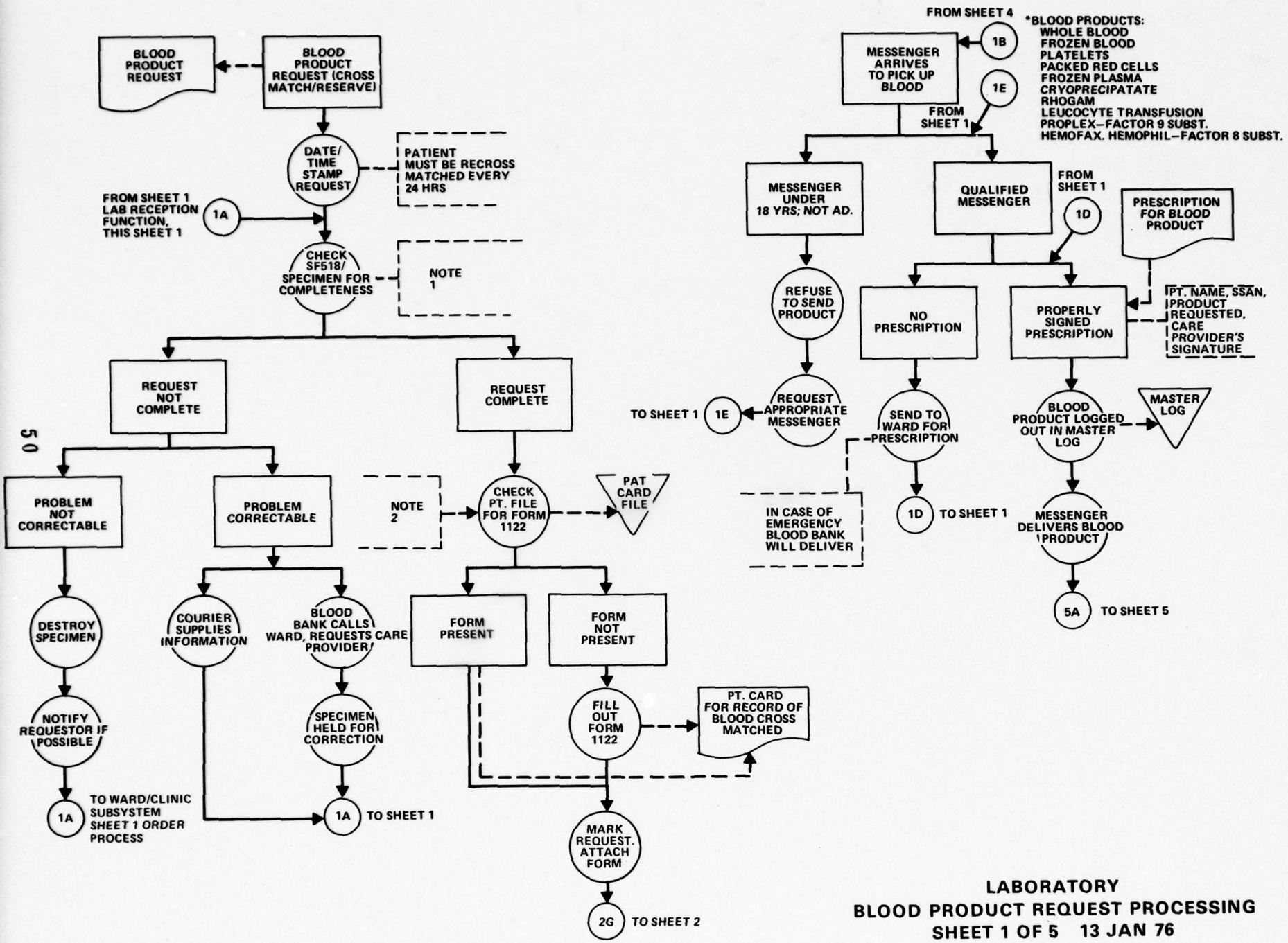


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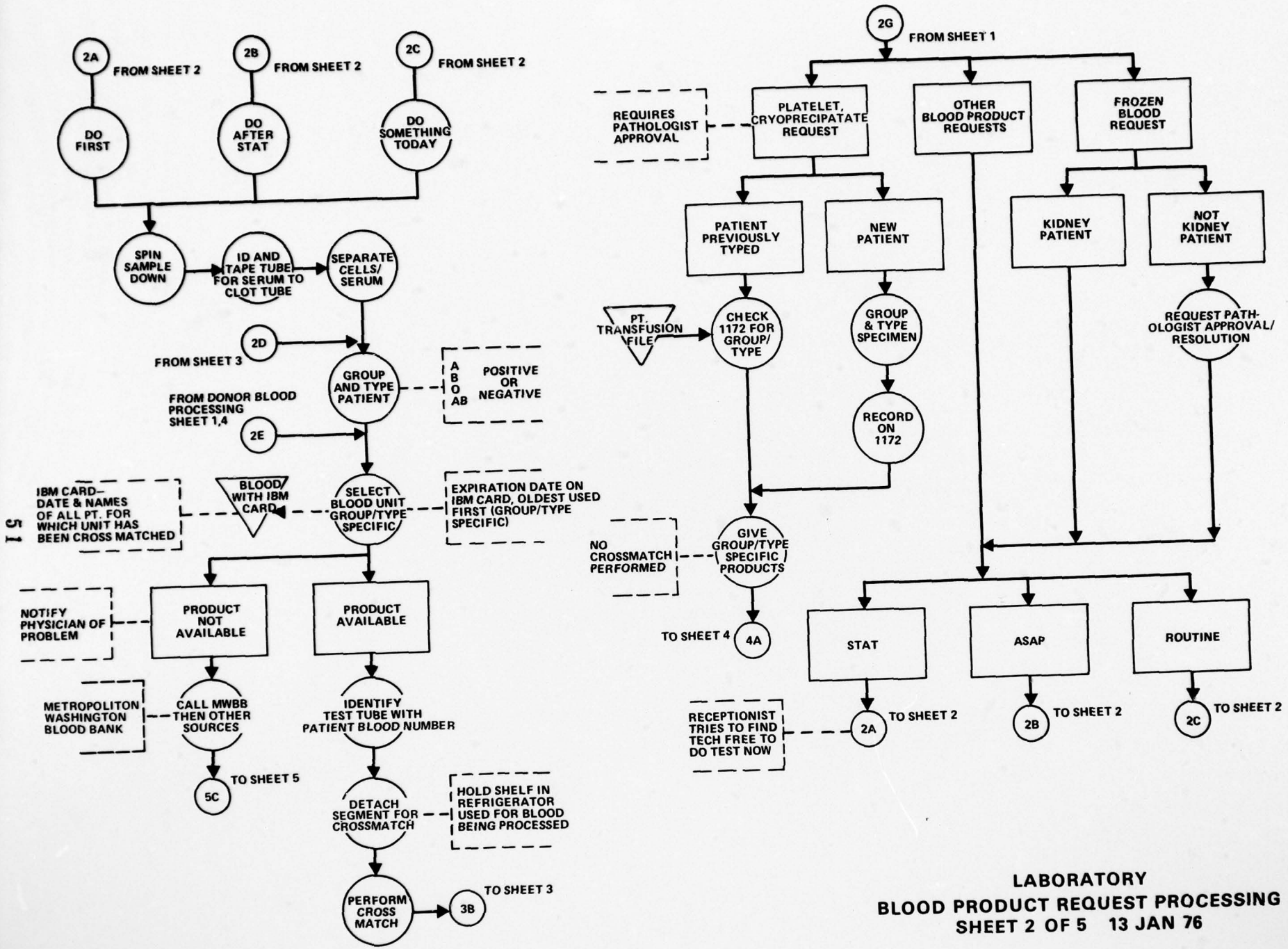


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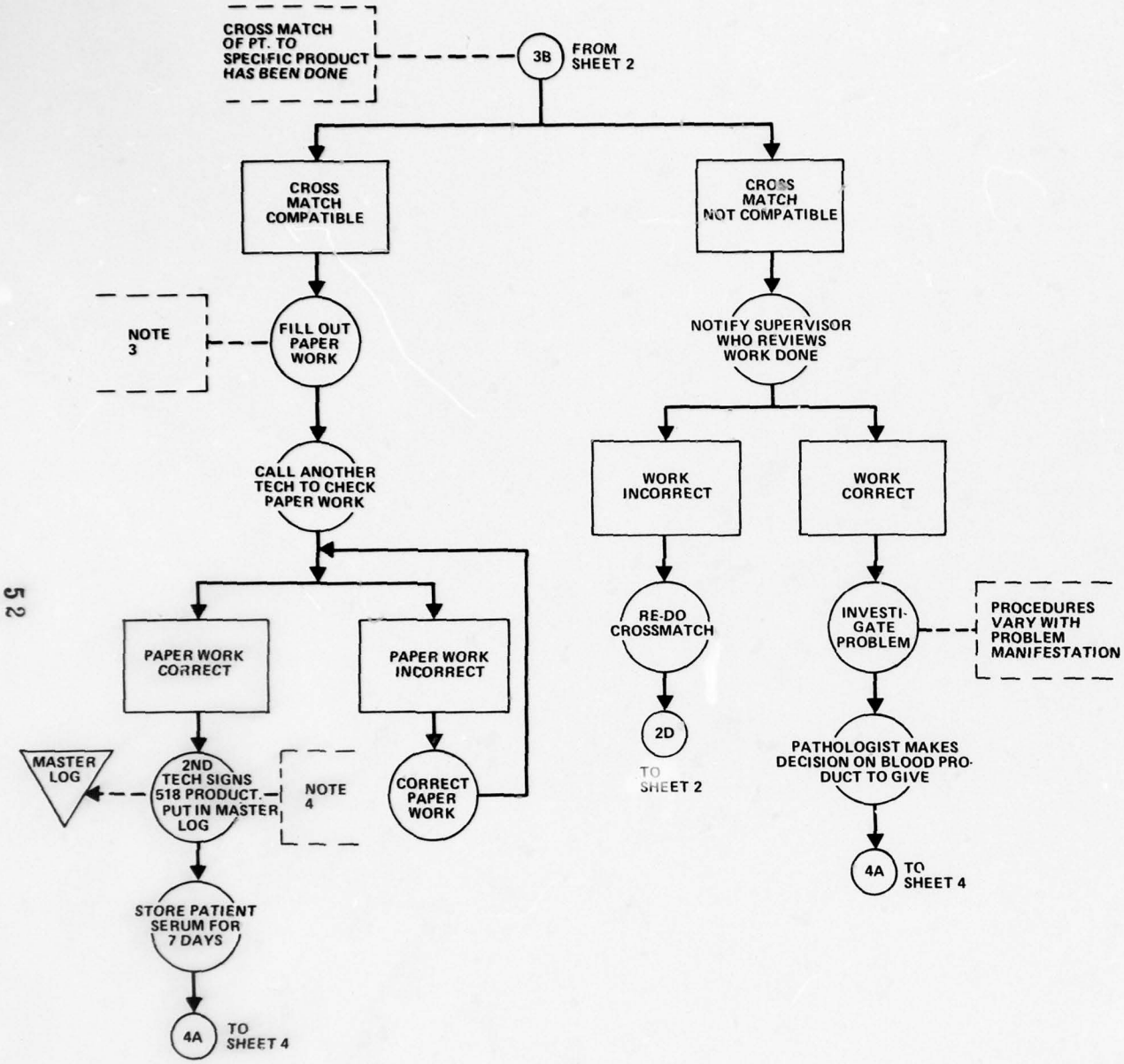


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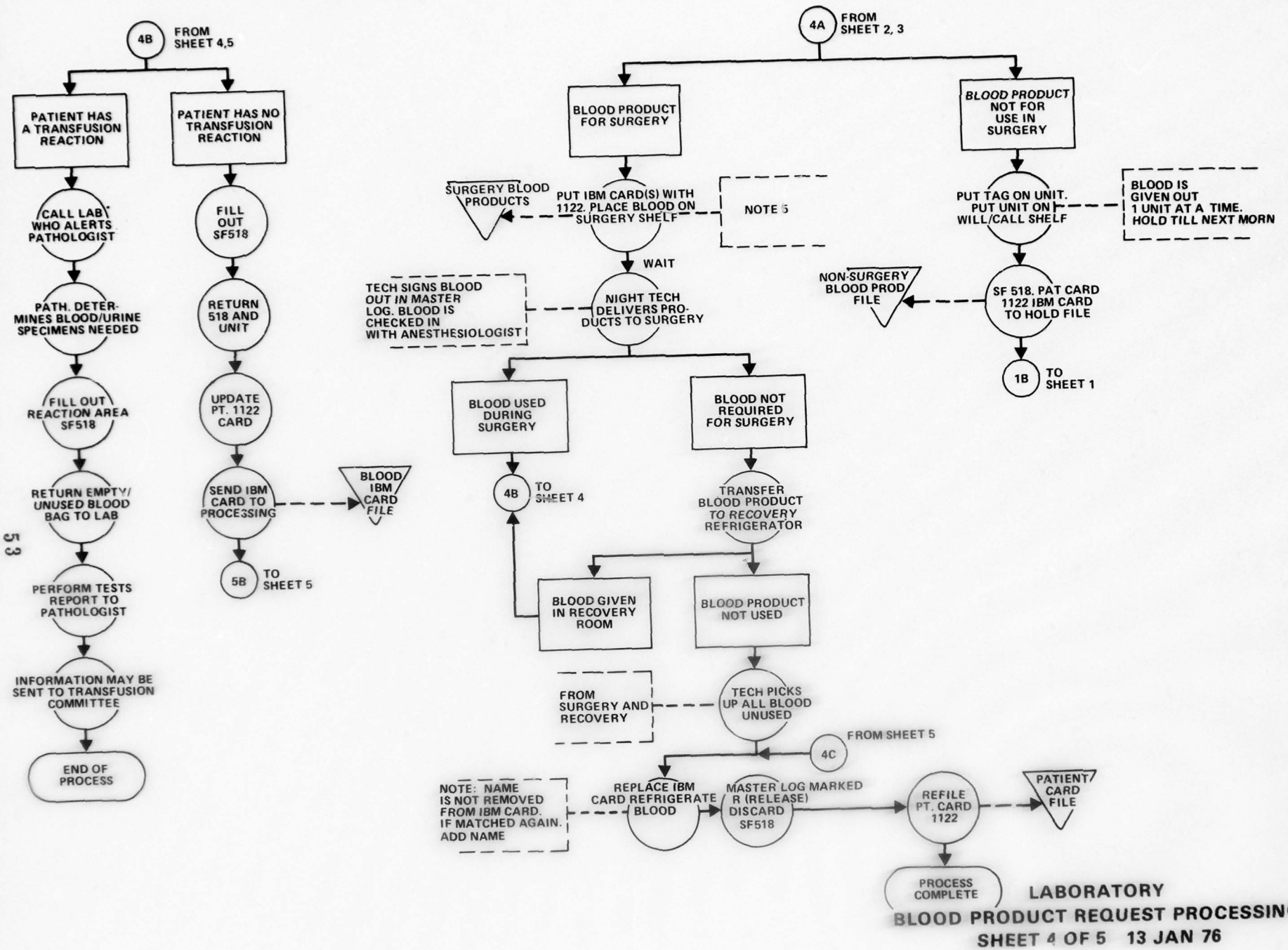
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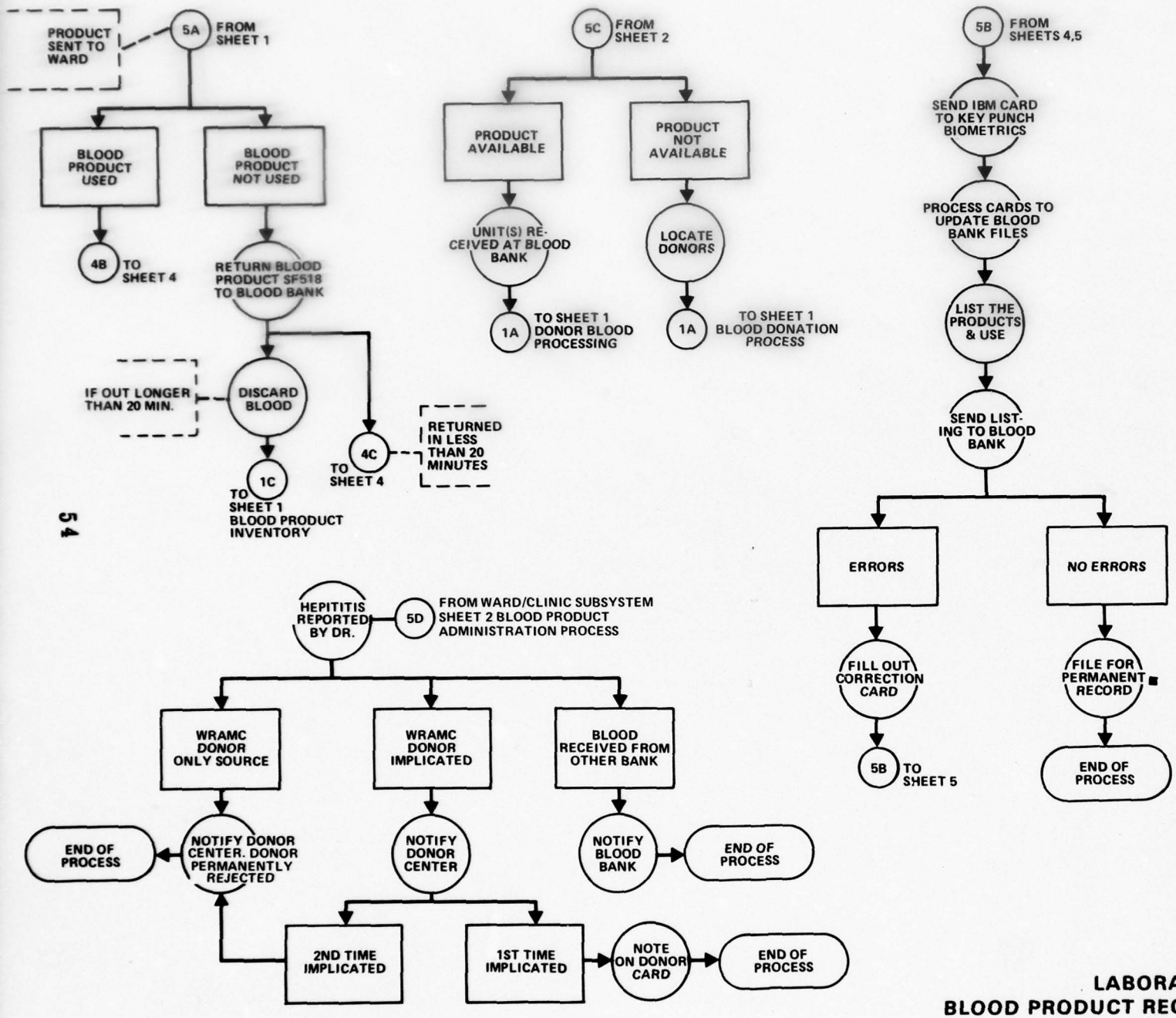


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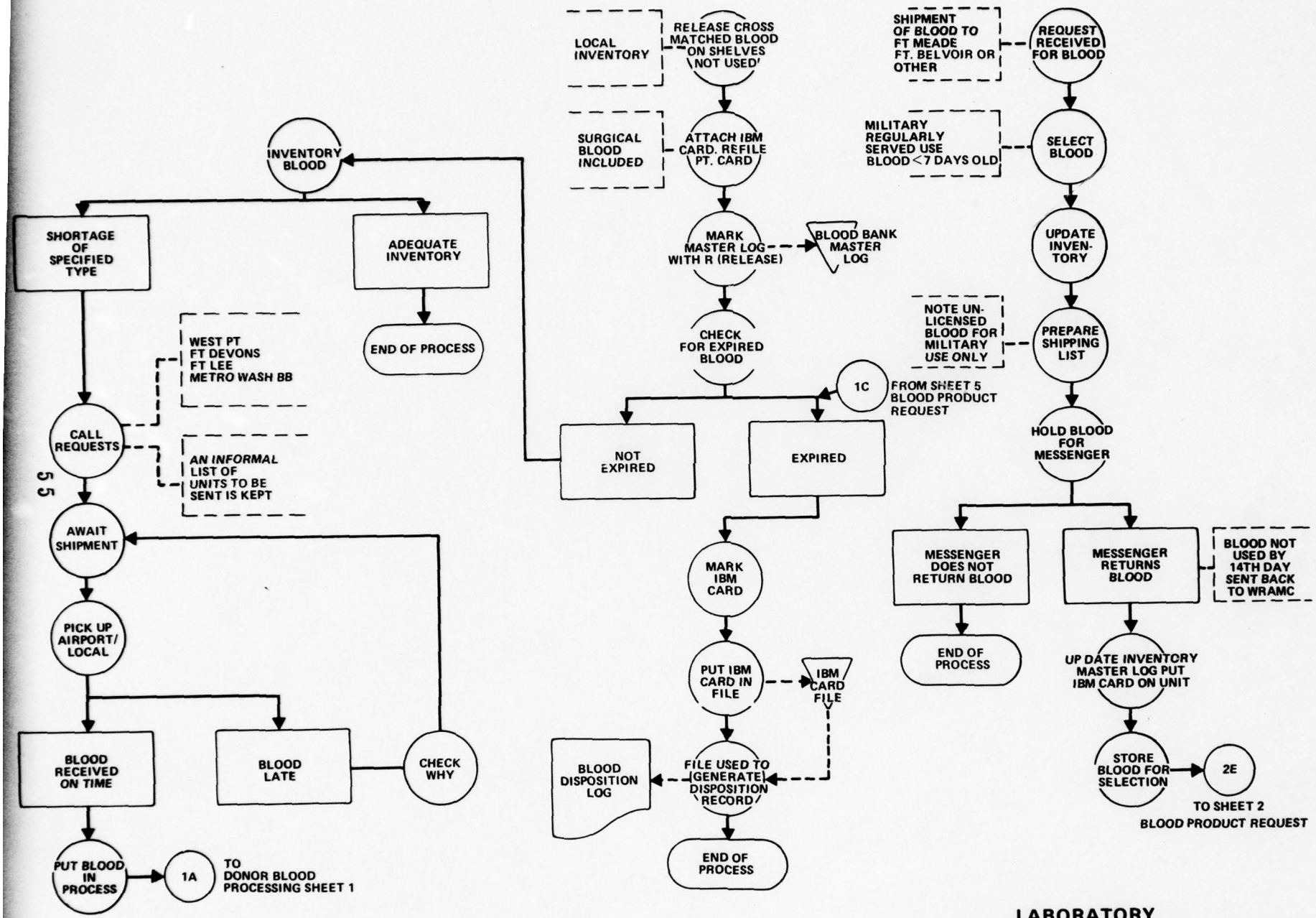
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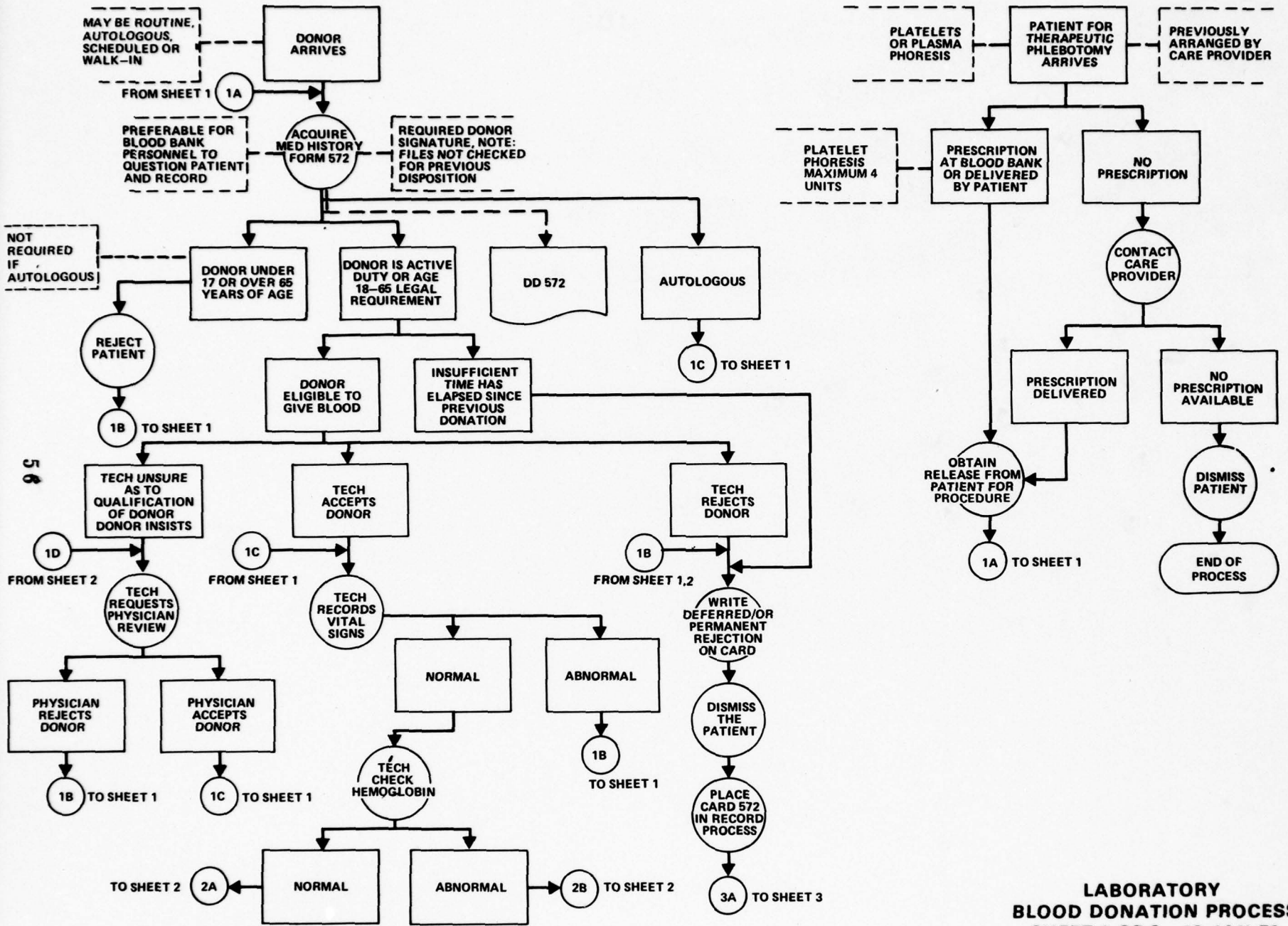


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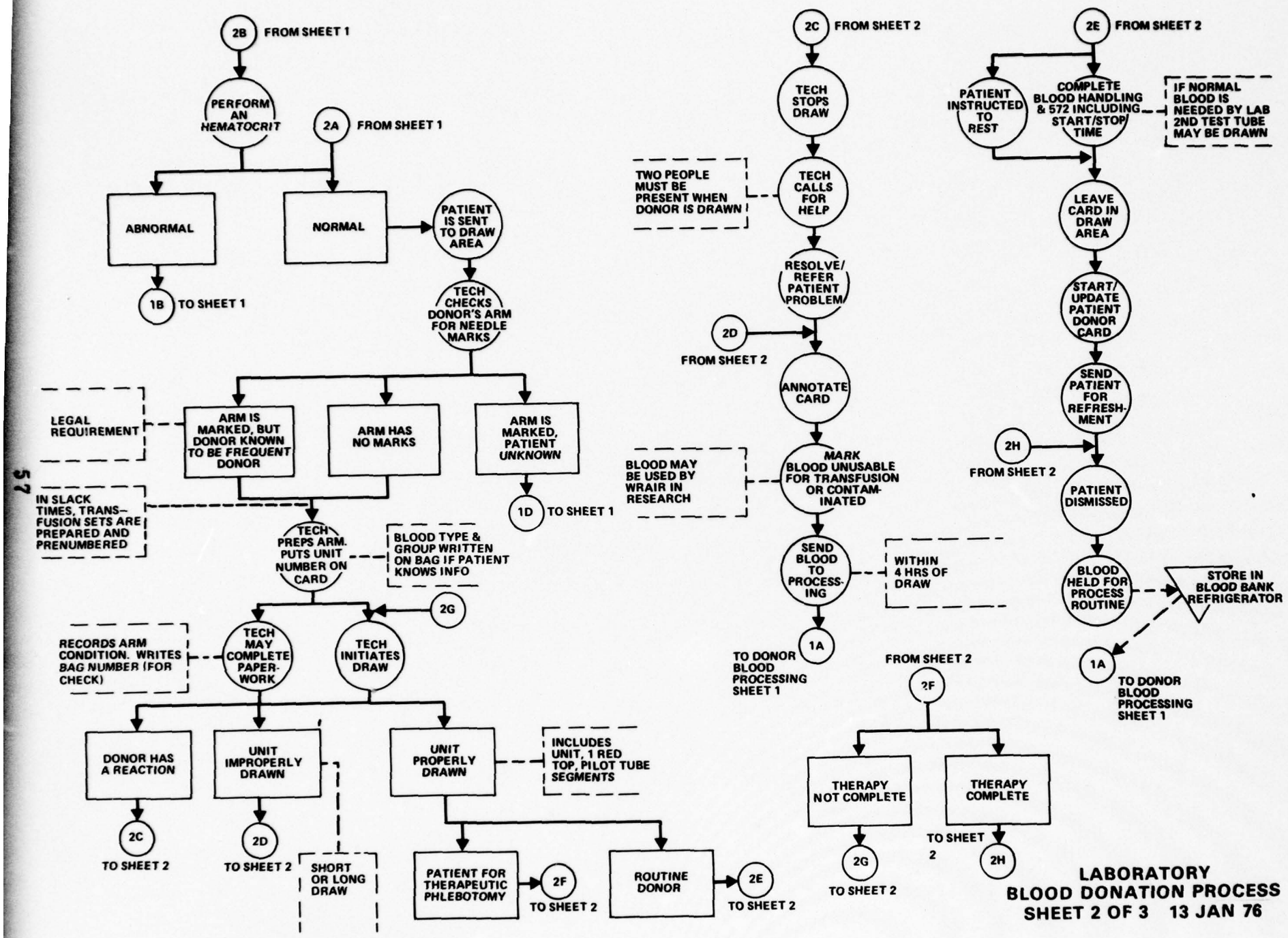


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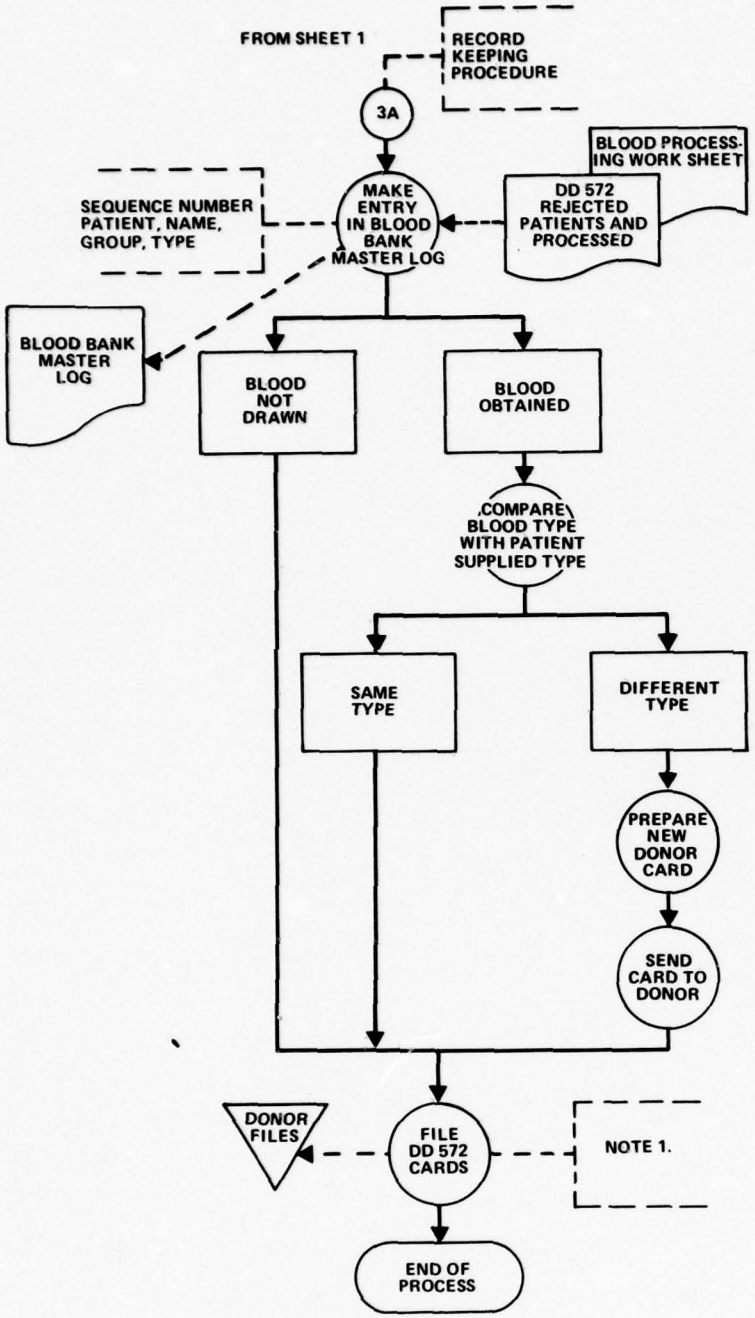
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LABORATORY
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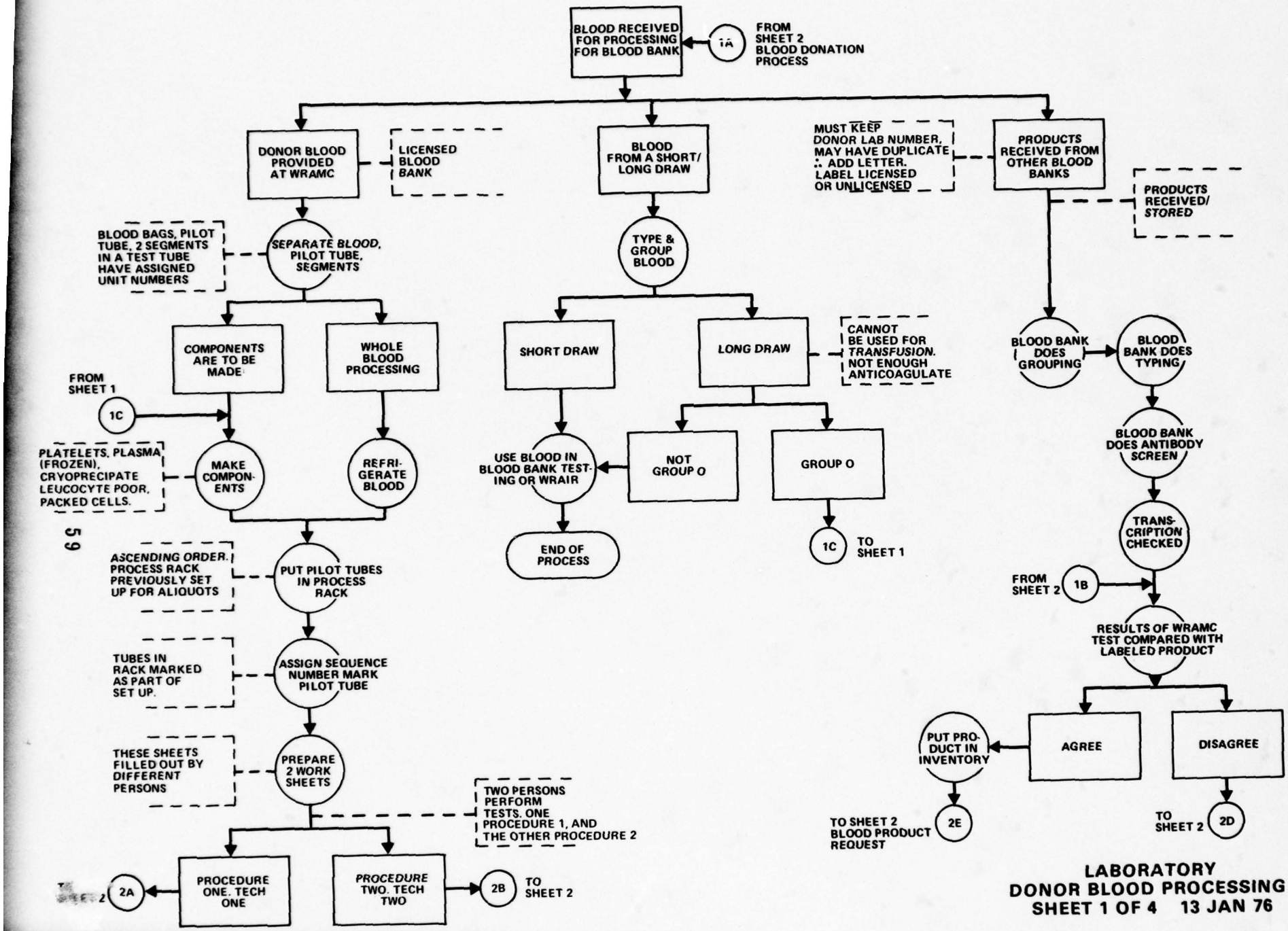
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- D. OTHER WRAMC
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  - 2. MILITARY
- E. OTHER AGENCY DONORS BY AGENCY

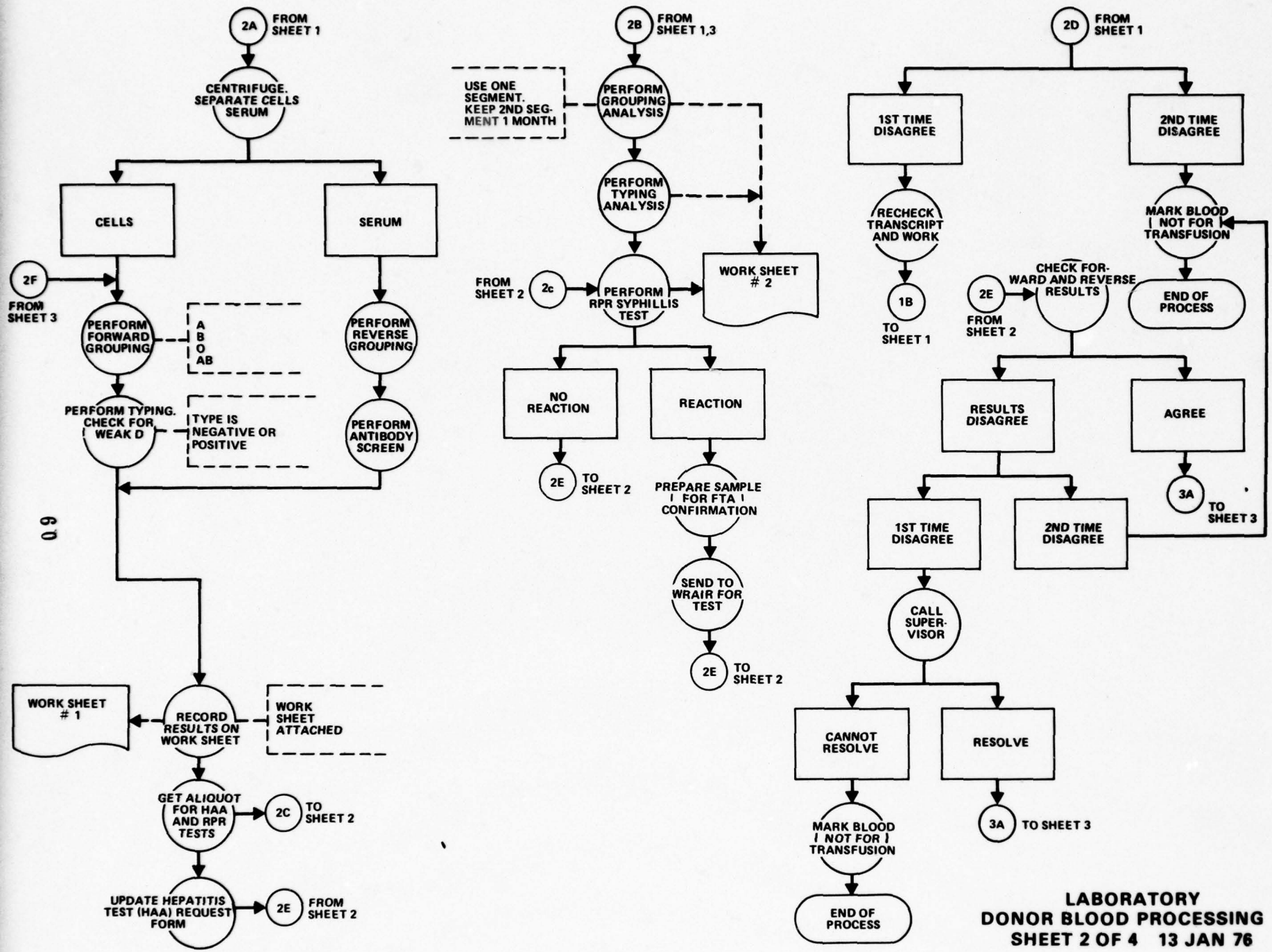
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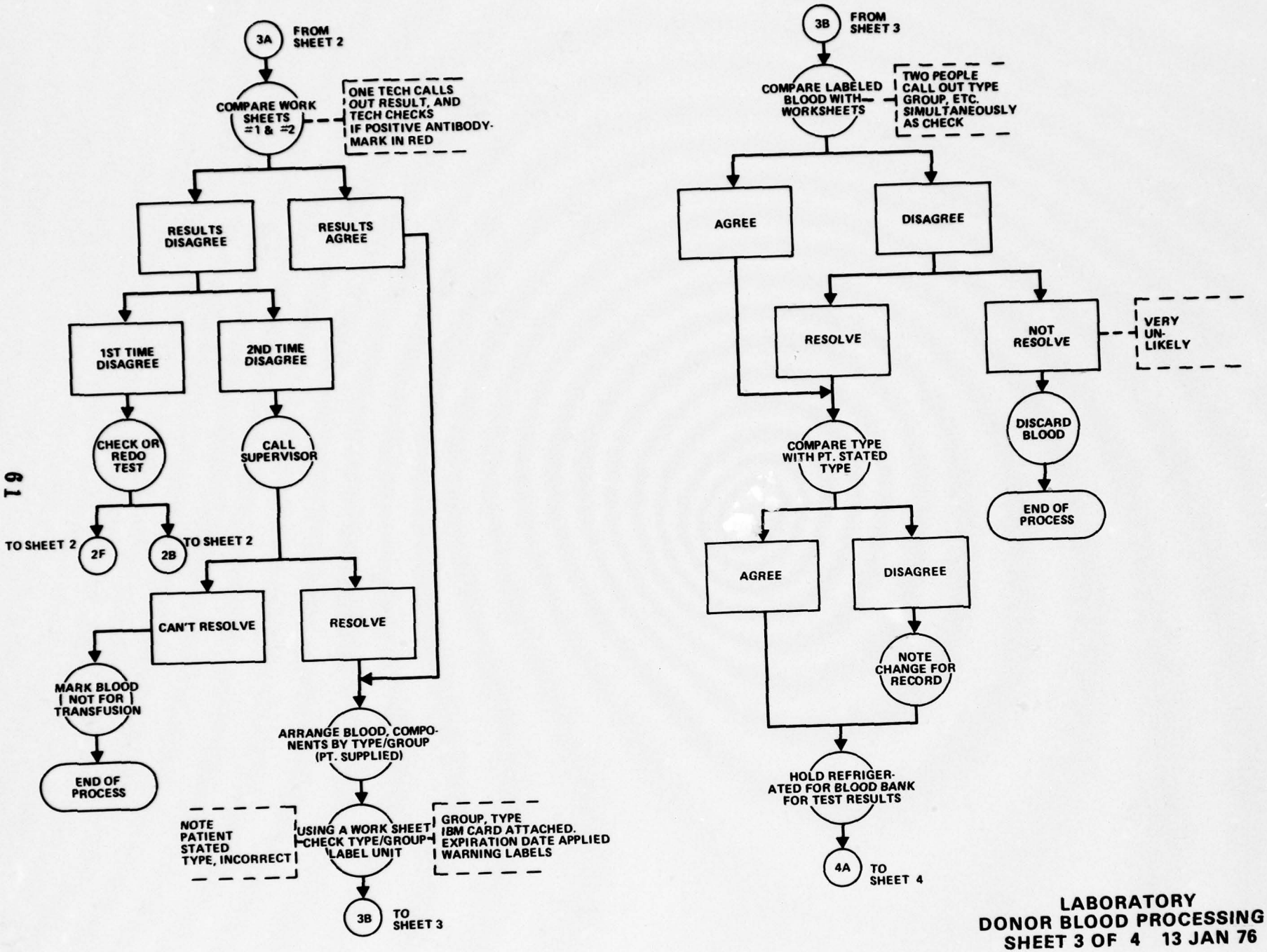
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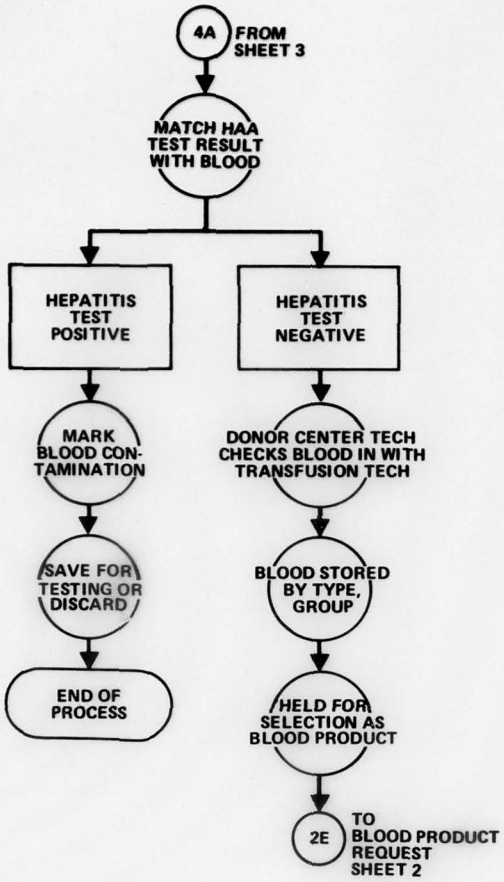


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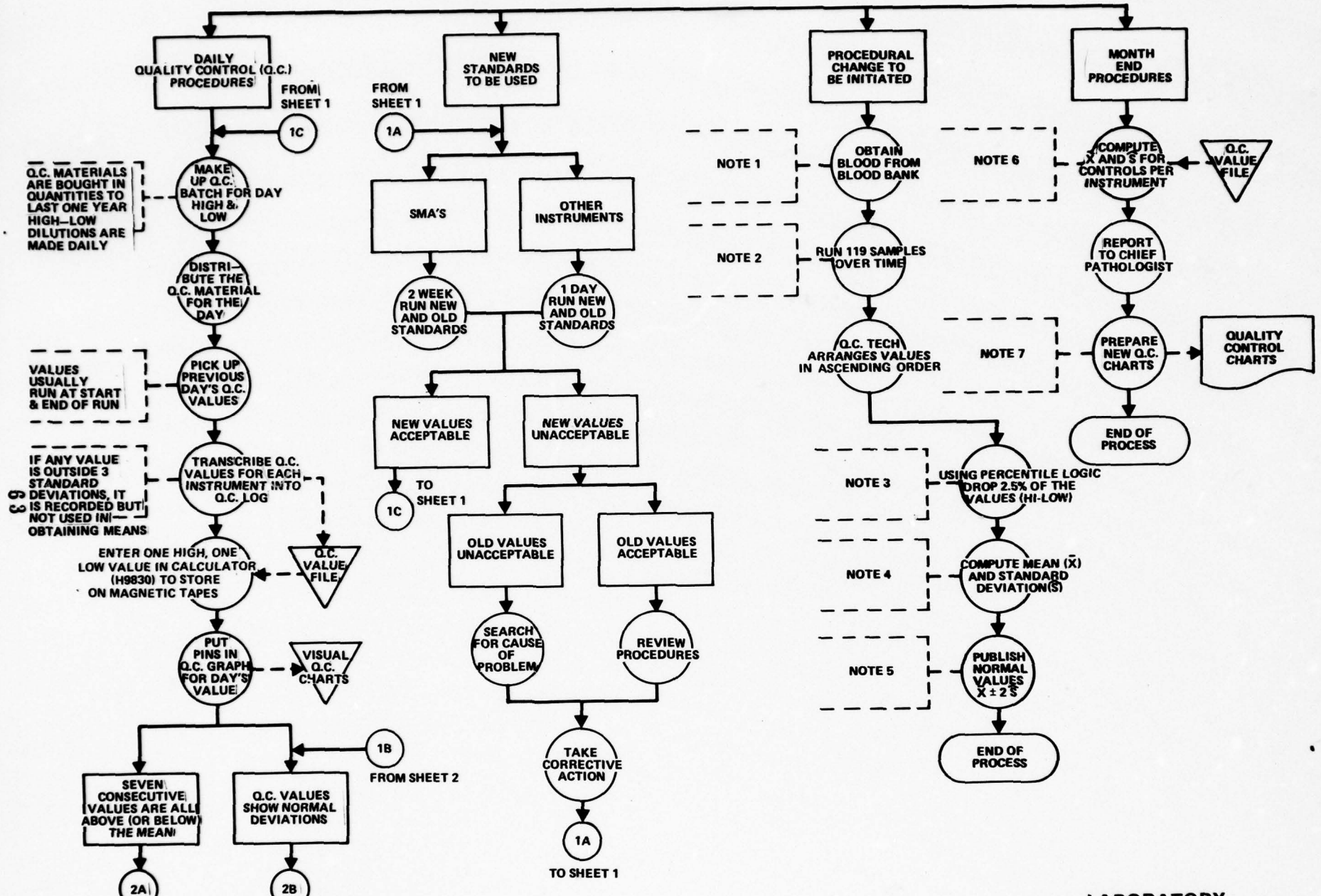


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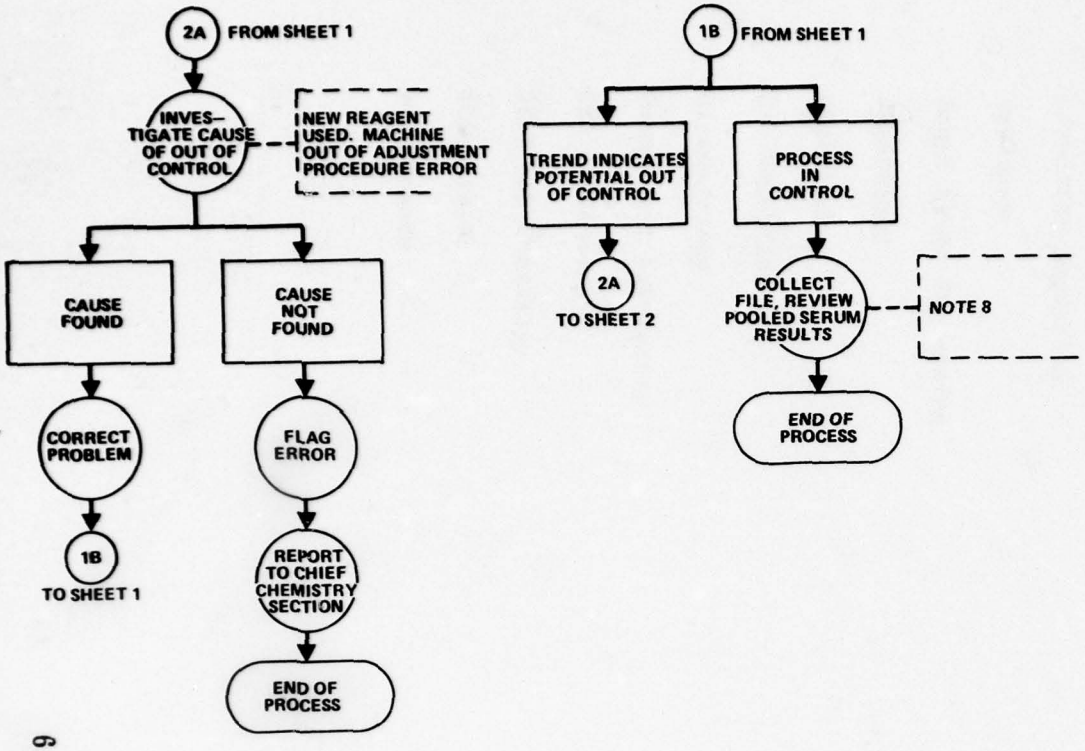


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RADIOLOGY SUBSYSTEM

A043 220

CONDITION-ACTION DIAGRAM FLOWCHARTS

US ARMY TRIMIS AGENCY
Walter Reed Army Medical Center
Washington, DC 20012

August 1976

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REPORT DOCUMENTATION PAGE

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1. REPORT NUMBER: TRIMIS-ARMY-TR-1-8	2. GOVT ACCESSION NO.
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE *(and Subtitle)*: RADIOLOGY SUBSYSTEM CONDITION-ACTION DIAGRAM FLOWCHARTS	5. TYPE OF REPORT & PERIOD COVERED
	6. PERFORMING ORG. REPORT NUMBER: N/A
7. AUTHOR(s): Dick Henson, Mrs. Anna Lea Weihrer	8. CONTRACT OR GRANT NUMBER(s): N/A
9. PERFORMING ORGANIZATION NAME AND ADDRESS: USA TRIMIS Agency, WRAMC, Washington, DC 20012	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: USA TRIMIS Agency, WRAMC, Washington, DC 20012	12. REPORT DATE: August 1976
	13. NUMBER OF PAGES: 41
14. MONITORING AGENCY NAME & ADDRESS *(if different from Controlling Office)*: N/A	15. SECURITY CLASS. *(of this report)*: UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE: N/A

16. DISTRIBUTION STATEMENT *(of this Report)*

Approved for public release: distribution unlimited

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

Same

18. SUPPLEMENTARY NOTES

For use in conjunction with TRIMIS-ARMY-TR-1-1 Overview.

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Flowchart, Condition-Action Diagram, Health Care, Information System, Ambulatory Care, Hospital, Radiology

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

The purpose of these condition-action diagrams for the Walter Reed Army Medical Center (WRAMC) Department of Radiology is to depict the working relationships, information needs and data flows within the department, and the interfaces between Radiology and the other departments. The diagrams depict the current structure and organizational relationships with specialized personnel roles/ activities superimposed (e.g., the commo clerk and exit review function). The diagrams are intended to provide understanding as to how the department

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operates and is subdivided, and why the department operates as it does, in order to see where automation could improve the operation of the department, and the accuracy and timeliness of the radiological procedures from request processing to patient report generation.

The diagrams are WRAMC-specific but may be used by others to see how the WRAMC Department of Radiology is organized. They help illustrate the data which must be collected and the various relationships which exist within a hospital. They are geared to a military environment and to a very large department, although most functions are common to any radiology department.

The overview chart shows the various areas where radiologic support is provided. Mobile exams are given inpatients who cannot be transported to the department. Patients are seen in main diagnostic radiology, the cast room, surgery, the emergency room, and special procedures which are parts of diagnostic radiology although physically separate with their own reception and modified scheduling activities. Radiation therapy and Nuclear Medicine are also diagrammed.

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ACKNOWLEDGMENTS

The production of these Radiology Condition-Action diagrams was an effort involving many people. Extensive work was done by LTC Robert Quillin, SSG Stafford Counts, and Mr. Richard Henson of Walter Reed Army Medical Center; Mrs. Anna Lea Weihrer of the TRIMIS-Army Agency; and Dr. Sheldon Wilson and Sgt Jim Machunas of the Design Center, Gunther AFB, Alabama.

RADIOLOGY SUBSYSTEM

NARRATIVE

1. PURPOSE

The purpose of these condition-action diagrams for the Walter Reed Army Medical Center (WRAMC) Department of Radiology is to depict the working relationships, information needs and data flows within the department, and the interfaces between Radiology and the other departments. The diagrams depict the current structure and organizational relationships with specialized personnel roles/activities superimposed (e.g., the commo clerk and exit review function). The diagrams are intended to provide understanding as to how the department operates and is subdivided, and why the department operates as it does, in order to see where automation could improve the operation of the department, and the accuracy and timeliness of the radiological procedures from request processing to patient report generation.

The diagrams are WRAMC-specific but may be used by others to see how the WRAMC Department of Radiology is organized. They help illustrate the data which must be collected and the various relationships which exist within a hospital. They are geared to a military environment and to a very large department, although most functions are common to any radiology department.

The charts were used by TRIMIS in developing functional requirements for computer support in Radiology.

2. BACKGROUND

The radiology departments of large military hospitals serve both inpatients and outpatients. Under this system, proper scheduling is a problem and long waits for patients are not uncommon.

The department maintains a film library of more than 200,000 patients. Proper interpretation of radiologic images includes review of past images. Thus, for each exam the image library must check to see if it has pertinent images on file. These images are stored in SSN terminal digit order. In addition, health care providers borrow films for various purposes and the department maintains a large teaching library of films.

Radiology technicians are an expensive resource and improper scheduling of their time is costly. In addition, WRAMC is a training center and records are required to insure each student has received proper instruction in all procedures.

Once patients arrive for examinations, they must be processed and knowledge of their locations made available. In large departments, a patient can easily get lost or wait long periods of time before he notifies someone that he is not being processed or released, or has not reached the proper location.

After an exam has been performed, images are reviewed by Quality Control (QC) personnel and additional views ordered or, if the quality is unacceptable, repeat views may be required. The patient should be retained until this review has been completed so as not to require another visit. For patients requiring special preparation this is especially important, and patients frequently wait in dressing rooms until notified that the exam quality is satisfactory.

The Radiology Department includes not only Diagnostic Radiology but Radiation Therapy and Nuclear Medicine. Radiation Therapy is a treatment type facility. Individuals in this section follow patients over long periods of treatment, keep patient specialty charts, order tests, etc. Their needs are diagrammed and a computer system to support Radiology completely would require a clinical support capability much like other medical clinics.

Nuclear Medicine is responsible for the Thyroid Clinic. In this respect, it has clinical functions like Radiation Therapy. It also provides diagnostic services and performs certain nuclear medicine laboratory testing functions.

Radiology has several unique problems. Expensive equipment must be utilized as fully as possible. Human resource utilization must be optimized. The department reviews all requests to see if they are appropriate and many exams require consent of the radiologist prior to being scheduled. This is usually not required in other ancillary services.

Radiological procedures may require administration of contrast media or special preparation. This preparation may interfere with other scheduled radiographic exams. Therefore, the scheduler must consider what exams are scheduled or are to be scheduled and arrange them so that the elapsed time is minimized. In addition, many exams require that the patient not eat so must be scheduled early in the day. These all combine to provide a unique, complicated scheduling problem. Equipment and technicians, as well as patients, require scheduling.

3. LIMITATIONS

These charts do not specify ADP support. They do assume that required staff would be available. They are very much influenced by the environment, policies, and physical layout.

The Nuclear Medicine laboratory function is not diagrammed although it is under the supervision of the Nuclear Medicine service. The laboratory functions are similar to those described in the Laboratory Subsystem (Department of Pathology).

The system described is for a very large radiology department. Some smaller departments may have different needs, problems, and organization.

The diagrams show the influence of a military facility on procedures and policies. DOD requirements may differ slightly from requirements of other health care facilities, particularly in the area of charges for services and payment of such charges, and their influence on information needs.

4. OBJECTIVES

The diagrams were developed to show the information needs, decision points, and flow of paper and patients in a radiology department. They depict the interfaces between patient, health care provider, previous images, and resources necessary to do a diagnostic procedure or provide treatment. They emphasize workload accountability and reporting.

The scheduling function stresses the need for optimum use of equipment and technicians, and yet preserves patient satisfaction and meets the patient's needs while providing exams that can be scheduled to minimize elapsed time, and prevents interference of one exam's preparation with another exam.

The diagrams help identify bottlenecks, or potential ones, to help provide for minimal time in the department by the patient and optimal exam quality. The interpretation must be made by the radiologist who requires all previous images at the time new ones are read. These interpretations should be typed. It is desirable to minimize the time from exam completion to the availability of the report to the physician.

Case conferences require that the recent and past images of a patient be available while the case is under discussion. A large teaching library provides a source of images of previous interesting proven cases of various entities which may assist in the discussion of current cases. It additionally provides an important source of material for training in diagnostic radiology.

Images need to be made available on short notice which requires accurate storage and retrieval capabilities. Since images may be loaned, these loan records are very important. Images from other radiology departments must be received, cataloged, and stored for retrieval; and images may be permanently loaned to other hospitals.

Quality control review of images is required prior to patient release to prevent rescheduling of the patients. The number of retakes and the problems which necessitated the retakes can provide good management information. Film usage requires close monitoring to insure that film usage is commensurate with workload. Excess film usage is indicative of film pilferage or excessive repeat exams.

5. OVERVIEW

The overview chart shows the various areas where radiologic support is provided. Mobile exams are given inpatients who cannot be transported to the department. Patients are seen in main diagnostic radiology, the cast room, surgery, the emergency room, and special procedures which are parts of diagnostic radiology although physically separate with their own reception and modified scheduling activities. Radiation therapy and Nuclear Medicine are also diagrammed.

The system expects all patients to enter the system through the appointment/scheduling module. Those patients who wish to be seen immediately will, if possible, be scheduled immediately but they will be given "an appointment."

6. EXPECTED BENEFITS

The diagrams will show those areas where bottlenecks or potential for bottlenecks exist. They may be used to show those areas which would be impacted by policy changes. They depict the flow of paper and information as well as the flow and interaction of people and thus can be used to trace the impact of changes. They can also be used to define areas that could benefit from ADP support, the type of ADP support required, who would interface with the system, and the point in the process where this interface should occur.

7. INTERFACES WITH OTHER SUBSYSTEMS

The major Radiology Department interface is with health care providers in the wards and clinics. Once it is decided that radiologic treatment or testing is required, a request for services is made either in writing on a request or consultation form, or by direct contact between the patient's health care provider and a member of the Radiology Department's staff. Once the exam has been approved (many do not require approval), it is scheduled; and there is agreement between requestor/ patient/ department on the schedule. Equipment, technicians, and patients must be coordinated into the schedule process. Usually, preparation instructions are provided by the requestor although they may be provided by department personnel.

Pharmacy may be required to supply preparation media and, if so, they will be so advised.

If the patient is to receive treatment, a health care provider in the department may become the patient's primary care physician. Then clinic-like functions are carried out by the department (e.g., requesting lab procedures and patient record maintenance).

Once exams have been performed or treatments given, interim progress notes may be made, or reports of exams or consultations are prepared and sent to the requestor and incorporated in the patient's record.

Logistics interfaces with the department when equipment maintenance is required and for supply requisitioning, although the department does some direct ordering of supplies. A large part of the department's budget is expendable supplies.

The registration of patients is a Patient Administration function and no request for service is provided unless the patient is registered. Since radiology is an ancillary service, it may be the first--and frequently the only--contact the patient has with the system; therefore, Radiology personnel must be able to perform this function (i.e., check eligibility of patients and register the patient).

8. AMENABILITY TO ADP SUPPORT

The diagrams will assist in developing computer support for ADP. They have been used to define order entry, scheduling, patient tracking, exam, patient exit completion, image management, and clinical support modules for the TRIMIS system.

RADIOLOGY SUBSYSTEM

ABBREVIATIONS AND DEFINITIONS

Appt - Appointment; includes the scheduling process (see below).

CP - Care provider - anyone who has contact with a patient or his record; may be limited to those pesons who may request procedures: physicians, nurses, triage corpsmen.

Conflicting exams - Two exams in which the media given for one would prevent the other exams from being performed due to media interference.

Contra-indicators - A condition that makes an exam more critical and special permission may be required or special precautions should be taken; e.g., pregnancy, allergy, etc.

Dx - Diagnosis.

Eligibility for care - Standards set by PAD based on dependency status, ID card expiration date, retirement status.

Escort Service - The patient transportation service used to take patients from one place to another if the patient requires assistance.

Exam Directory - A list (file) of exams which defines valid exams, when they may be scheduled, rooms where they can be performed, length of time (average) to perform.

Handcarry - The delivery by the patient following the exam of both the images and the report on the exam.

Loose Image - An image which is not in a sub-folder or master folder. Usually one which has been separated from its sub-folder.

Master Folder - The patient's total set of images. The master folder (a large envelope usually) does not leave Radiology. This folder is divided into sub-folders.

MTF - Medical treatment facility.

No Shows - Scheduled patients who did not appear for an appointment.

PAD - Patient Administration (registrar). The organizational element responsible for eligibility, patient administration policies, and proper record custodians.

Patient Release - Patients are held in the department until the quality and number of images needed for the exam are approved. Upon completion of the review of images (QC), the patient is released after the last exam for which he is scheduled.

Pre-exam Procedure - Undressing; medication; fasting.

Preliminary Report - (Nuclear Medicine) A report prepared prior to review by the department staff conference.

Prep - Preparation for an exam. May include instructions for no food or water "X" number of hours prior to the exam; taking of medications; partially or fully disrobing.

PTID - Patient identification: Name, family member prefix, sponsor's SSN, and date of birth.

Patient Processing Folder (pt. proc. folder or proc. folder) - A folder provided for each patient that includes schedule, department map, flash cards, warnings, exam request.

QC - Quality control. Each set of images is developed as soon after the exam has been completed as possible, and reviewed to insure that the quality and number of views are satisfactory.

Rad - Radiology Department.

Record Retention - Images and records are maintained for five years after the date of last activity. The images are then salvaged for their silver content.

Registration - The entering of patient data into a record system to show the patient has received, or is eligible for, care and to establish patient records for the patient.

Requestor Eligibility - The process of determining who may obtain images. In order to obtain images on loan, the requestor must have loan privileges.

Schedule Process - The process of actually locating time when a patient, care provider, and equipment are available for a procedure.

Special Procedure - A subset of specific exams usually requiring specially trained technicians. Special procedures will be done in an area on the 4th floor in the new WRAMC.

SSN - Social Security Number. Military records use the sponsor's SSN.

Subfolders - A subset of images in a Master Folder such as bone, chest, or similar grouping.

Tomo - Tomogram. A special type of radiograph obtained by appropriate movement of the X-ray tube and film or patient which permits visualization of a particular plane through the anatomic structure of interest.

Treatment Plan - The planned treatment schedule for Radiation Therapy or Nuclear Medicine agreed to by physician, radiologist, and patient.

Tracking Log - A record of the location of the patient during the time he is in the department. It contains (depending on the MTF) the patient's arrival in the department, his entrance and exit of the exam room, his exit from the department. Used to compute time in the department, actual exam times, wait times, etc.

Validation of Request - Permission by an authorized representative of Radiology that the requested exam should be performed.

View Consult - Films are maintained in the view consult room for 24 hours after the images have been made.

Wet Read - The immediate preparation of a report of an exam to be returned to the requestor by the patient who waits for it upon completion of the exam.

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HEALTH CARE INFORMATION. PROCESS CONDITION-ACTION DIAGRAM FLOWC--ETC(U)
JAN 77 K SCHANK, F BOCK
UNCLASSIFIED TRIMIS-ARMY-TR-1 NL

9 OF 10
AD A045458



CONDITION-ACTION
DIAGRAM INTERPRETATION GUIDE

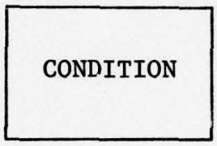
1. ACTION

When an action circle is encountered, the specified action, procedure, function, or process is to be performed as noted. An action is performed. It never has a truth (true or false) value.



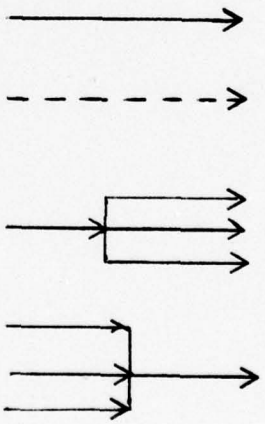
2. CONDITION

When a condition box is encountered, the specified condition is to be evaluated; and, if it holds true or succeeds, the following blocks on the diagram are to be executed. This box is also used to denote the condition which caused this path to be taken.



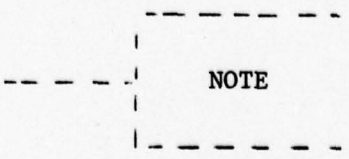
3. FLOWLINES

Flow proceeds through the diagram along the flowlines. When a flowline splits into multiple lines, all the lines must be followed (perhaps at once). If only one is intended, condition boxes will be used to select the proper line. When flowlines join or reconsolidate into a single line, that line is to be followed regardless of the number of joining lines that were active. Control, execution, or interpretation of the diagram is shown by solid flowlines. Data and information are usually assumed to accompany control; but, where necessary for clarity, it is shown by "dash" lines, regardless of media.



4. NOTE

Clarifying notes, comments, remarks, and other annotations, including references to additional documentation, are enclosed in "dash" note boxes and are connected to the annotated structure by "dash" lines.



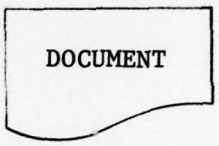
5. STORAGE

A triangular storage block indicates storage of information or data regardless of the medium of storage.



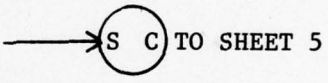
6. DOCUMENT

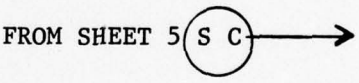
A document symbol represents information or data, regardless of media. (It may or may not physically reside on a a document). It is used only for clarity, as information such as that contained in the "document" is assumed to be always present along with the control flow.



7. CONNECTOR

A connector circle specifies that the flow continues on another page or section of this page. An out-connector contains a number (which is the sheet number at which the flow is continued) and a letter (which specifies which in-connector on that sheet is being referenced). The in connector contains the matching number/ letter code. Adjacent to the connectors is a notation as to the sheet and process to which the connectors refer.





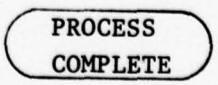
8. PROCESS

The process symbol at right indicates a process to be performed. The process referenced will be diagrammed in its own set of condition-action flowcharts which are included in the same packet of flowcharts for reference. After the process is performed, flow resumes.



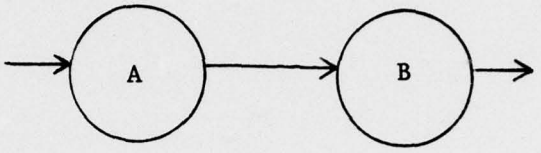
9. TERMINATOR

The oblong terminator symbol indicates that the current process or sub-process is complete. Normally, upon completion of a process, control returns to the process which invoked it and resumes where it left off in that process.

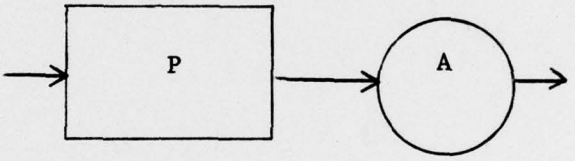


CONDITION-ACTION EXAMPLES

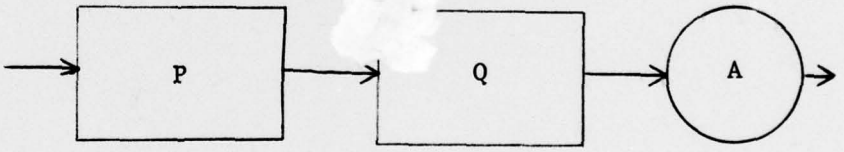
Perform Action A first, then in sequence, perform B.



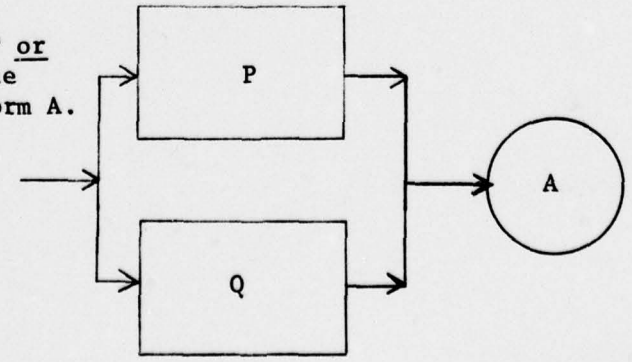
If Condition P holds true, then perform Action A.



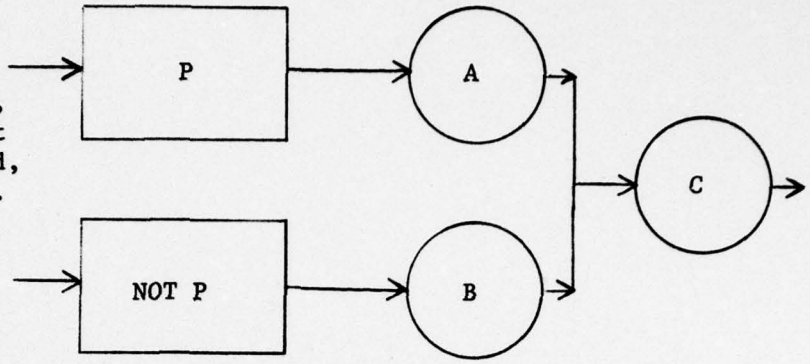
If both Condition P and Condition Q hold true, then perform A.



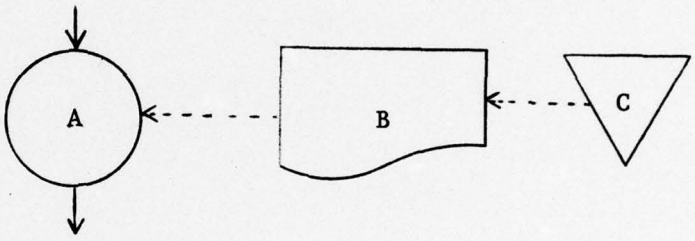
If either Condition P or Condition Q holds true (or both), then perform A.



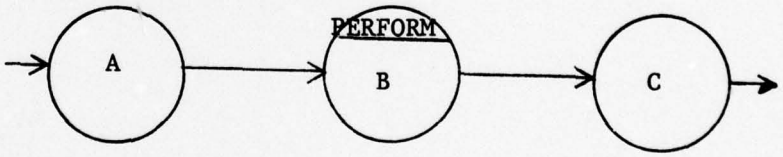
If Condition P holds true, then perform Action A, but not B. If P does not hold, then perform B, but not A. In any case, when done, perform C.

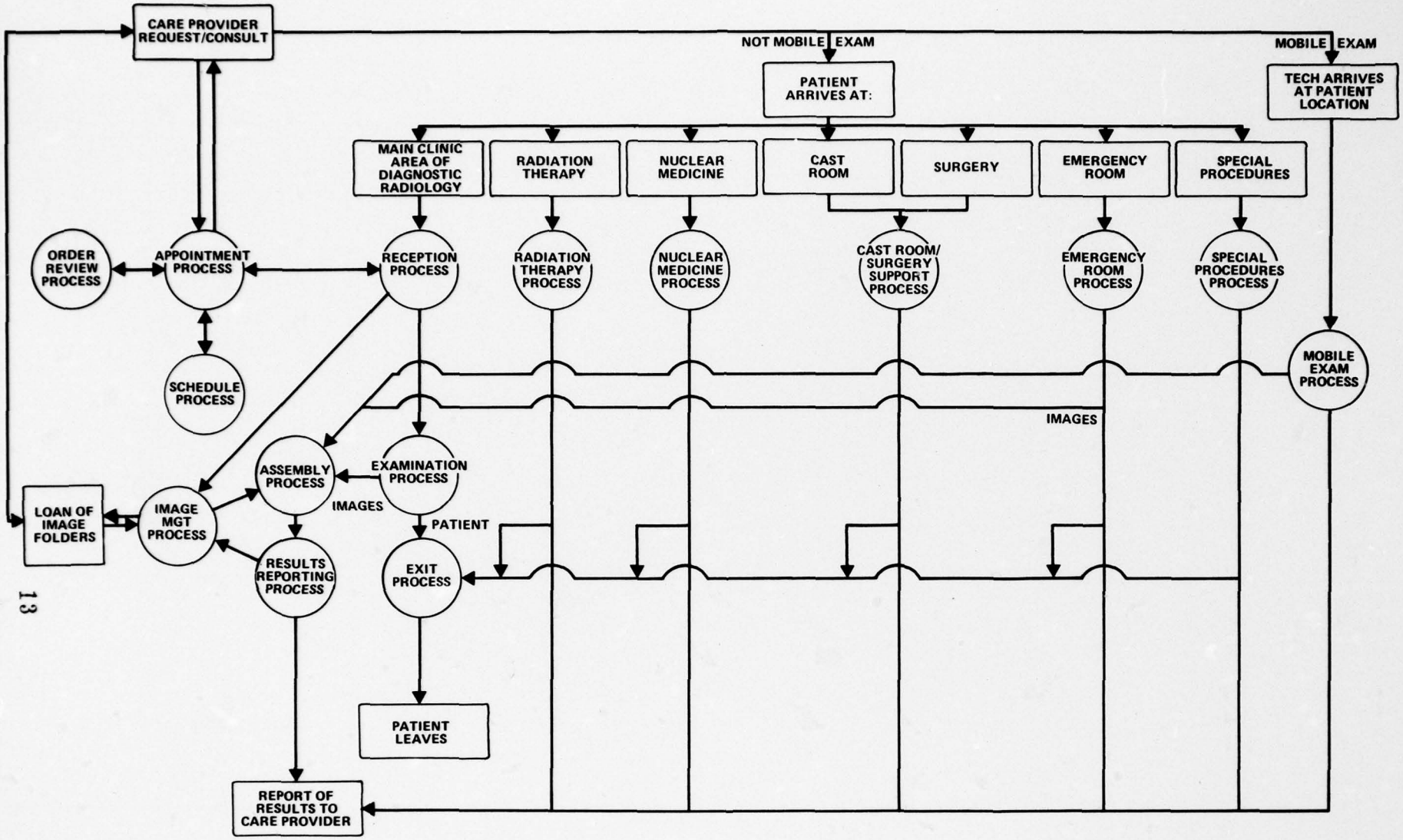


Perform Action A, utilizing information contained on the document B which was retrieved from the File C.

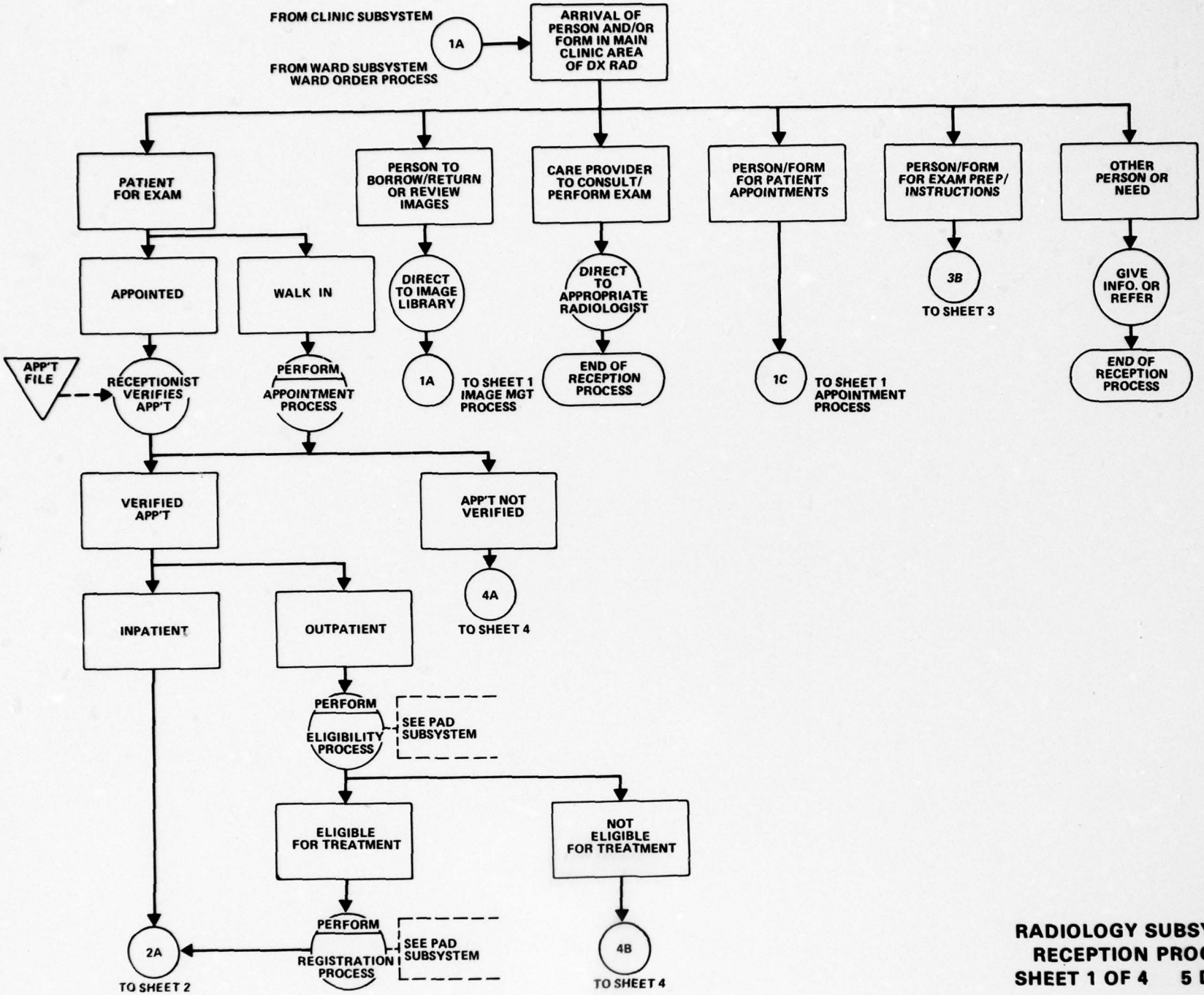


First perform Action A. Then perform Process B, which is itself flow-charted elsewhere in this set of charts. After B is completed, return to here and perform Action C.

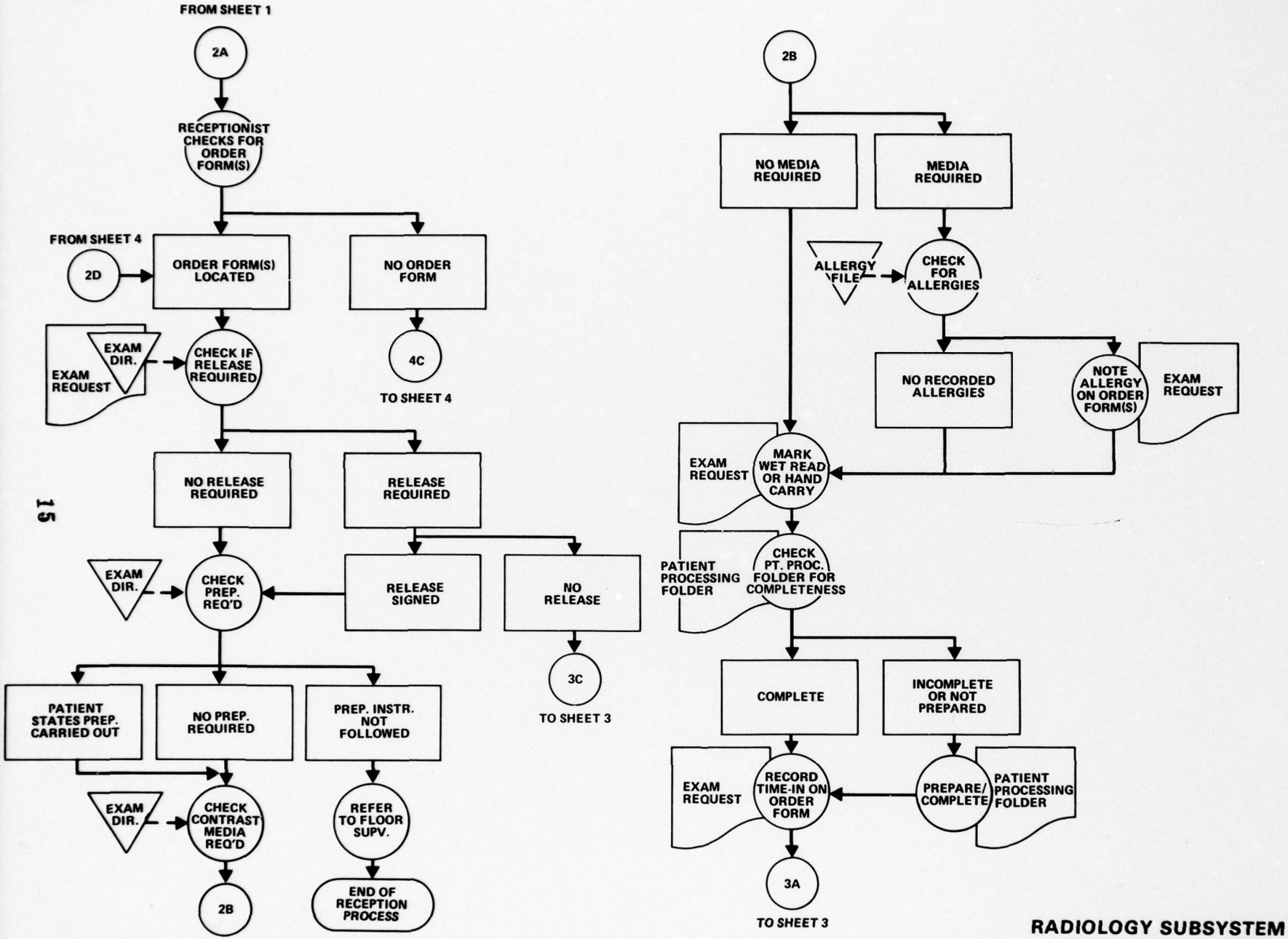




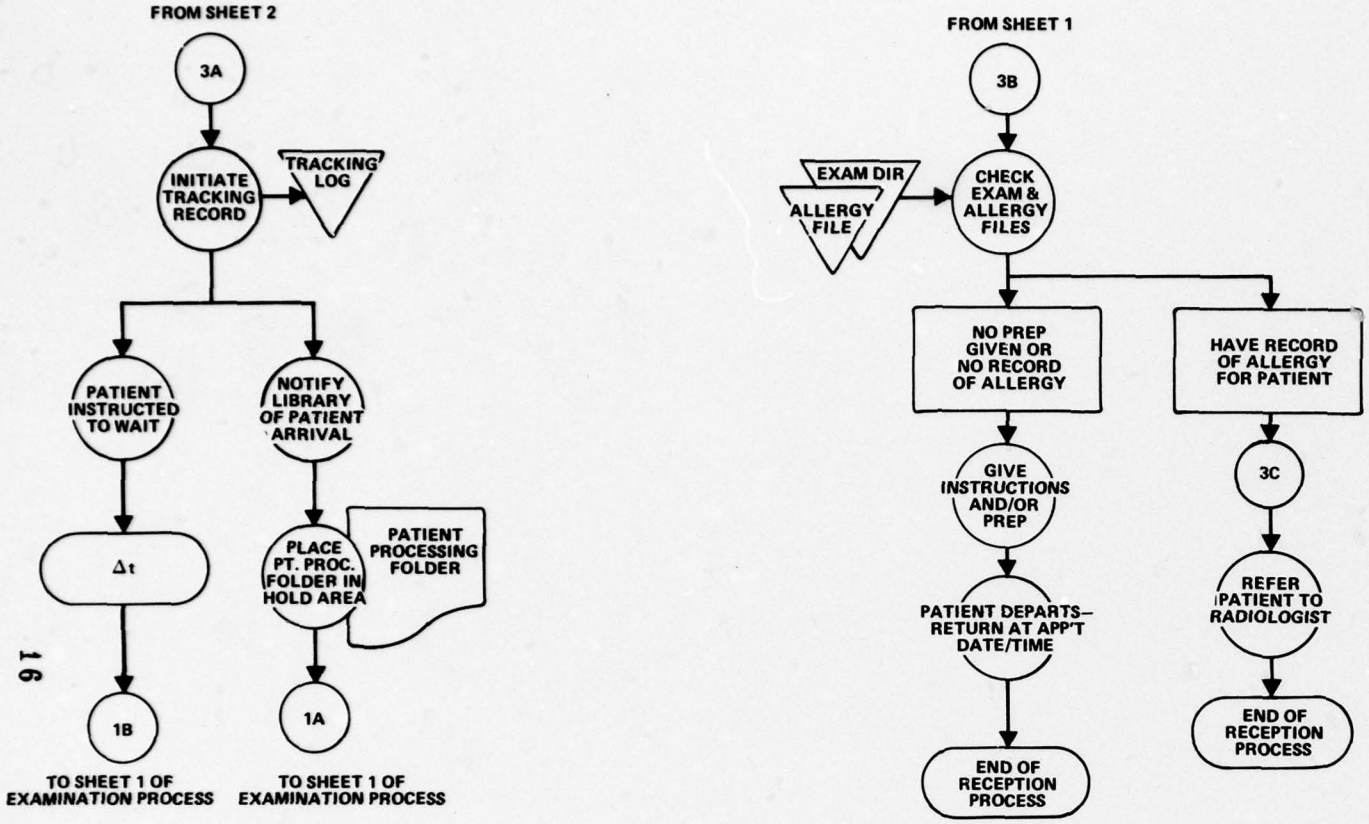
RADIOLOGY SUBSYSTEM OVERVIEW
SHEET 1 OF 1 5 DEC 75



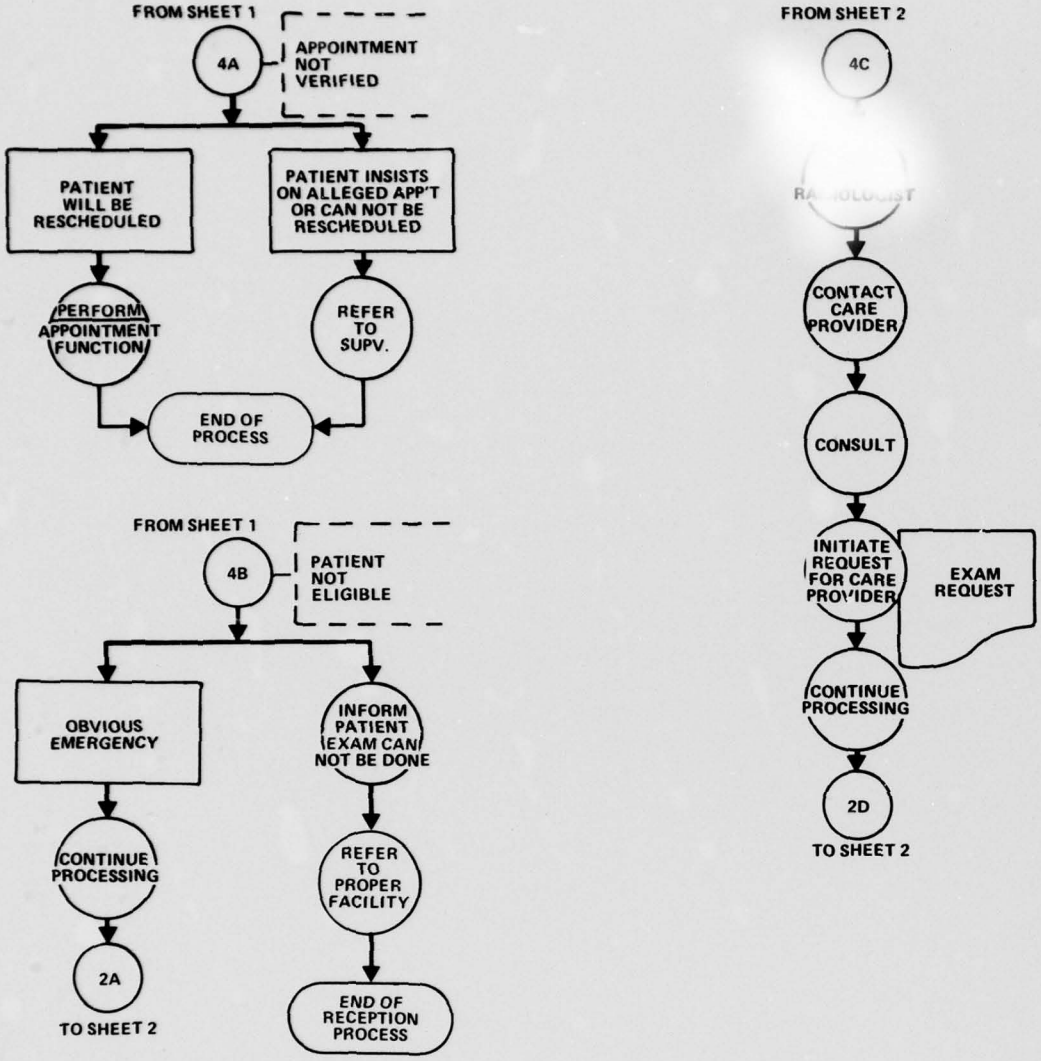
RADIOLOGY SUBSYSTEM
RECEPTION PROCESS
SHEET 1 OF 4 5 DEC 75



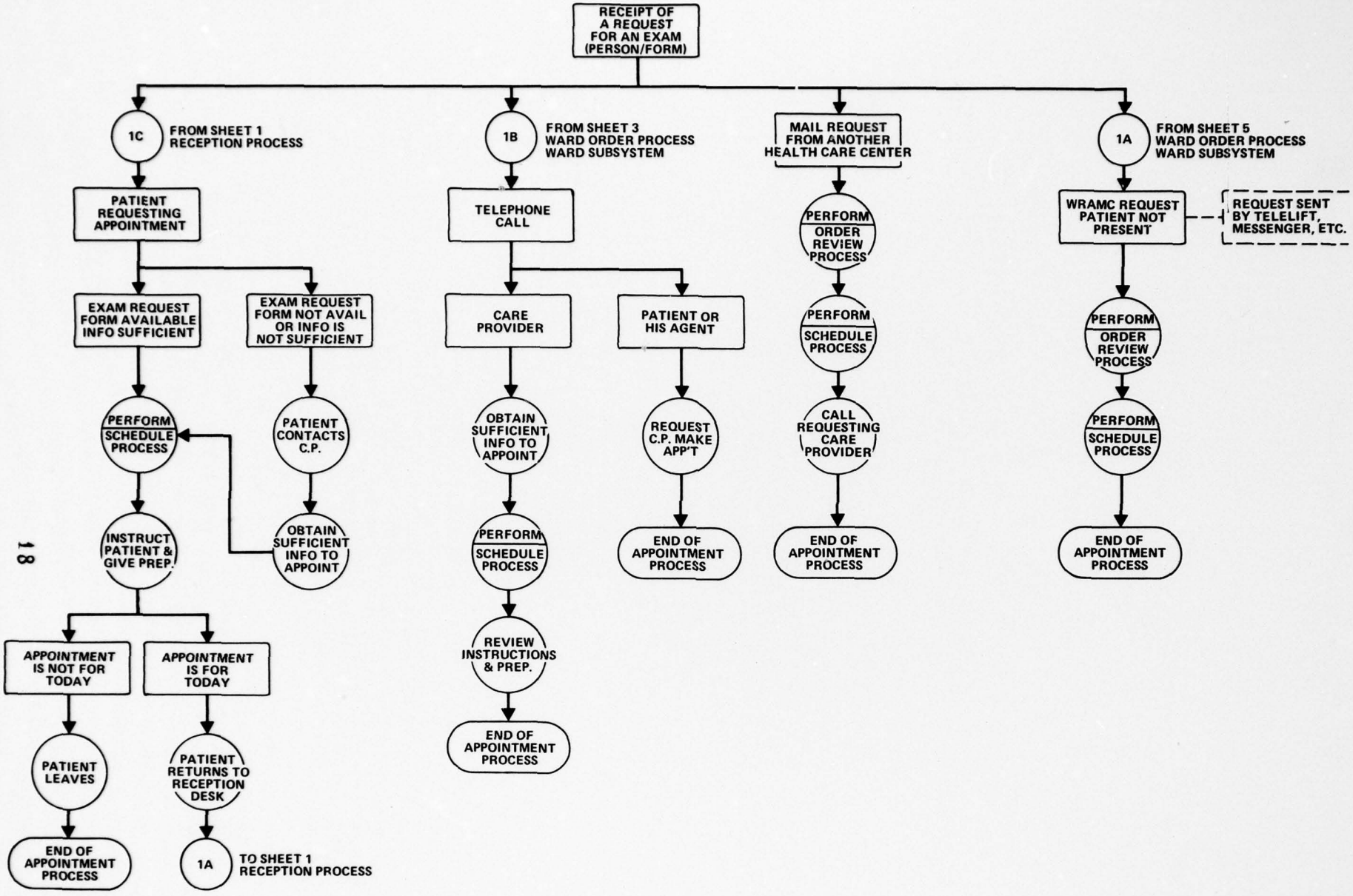
RADIOLOGY SUBSYSTEM
RECEPTION PROCESS
SHEET 2 OF 4 5 DEC 75



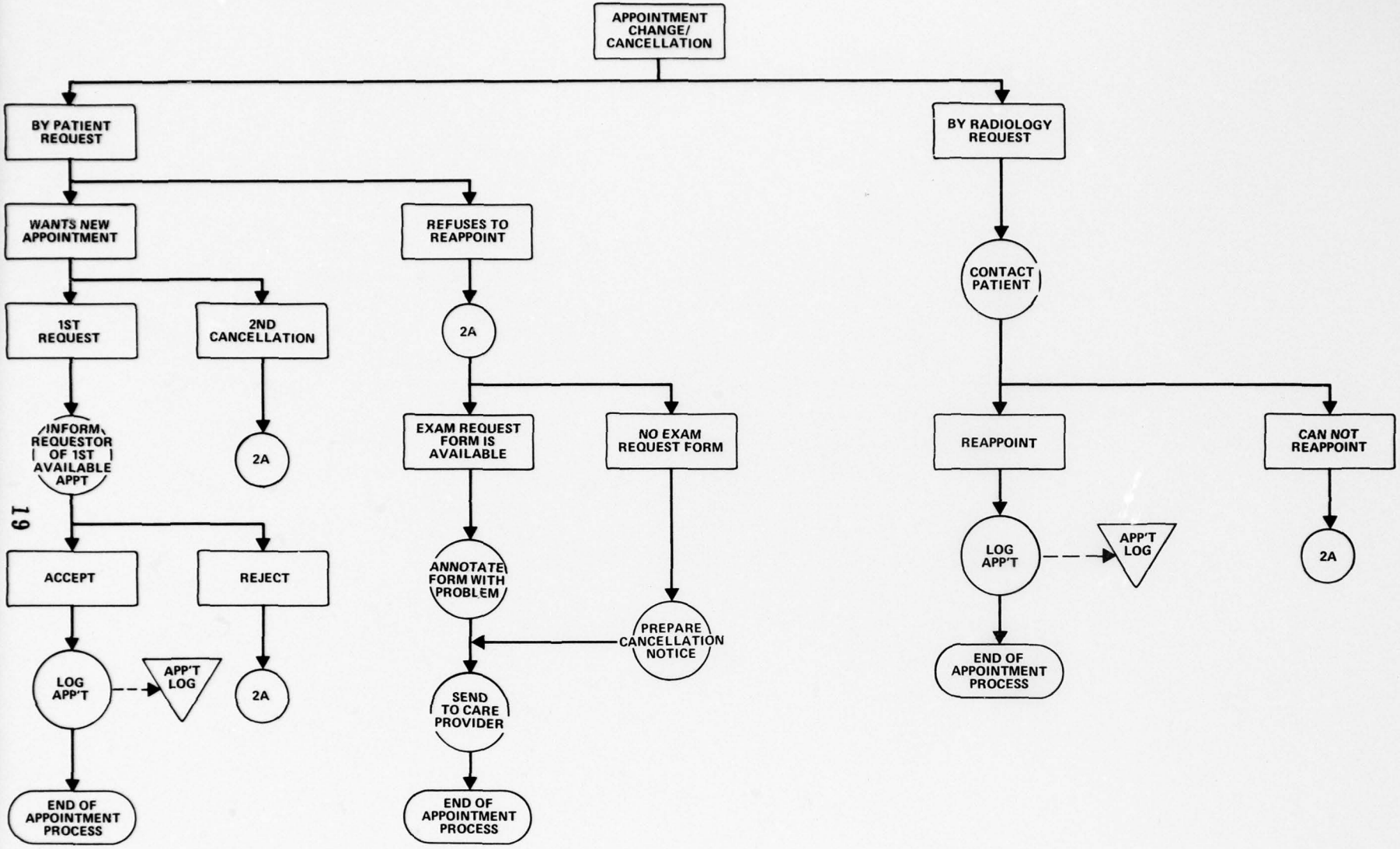
RADIOLOGY SUBSYSTEM
RECEPTION PROCESS
SHEET 3 OF 4 5 DEC 75



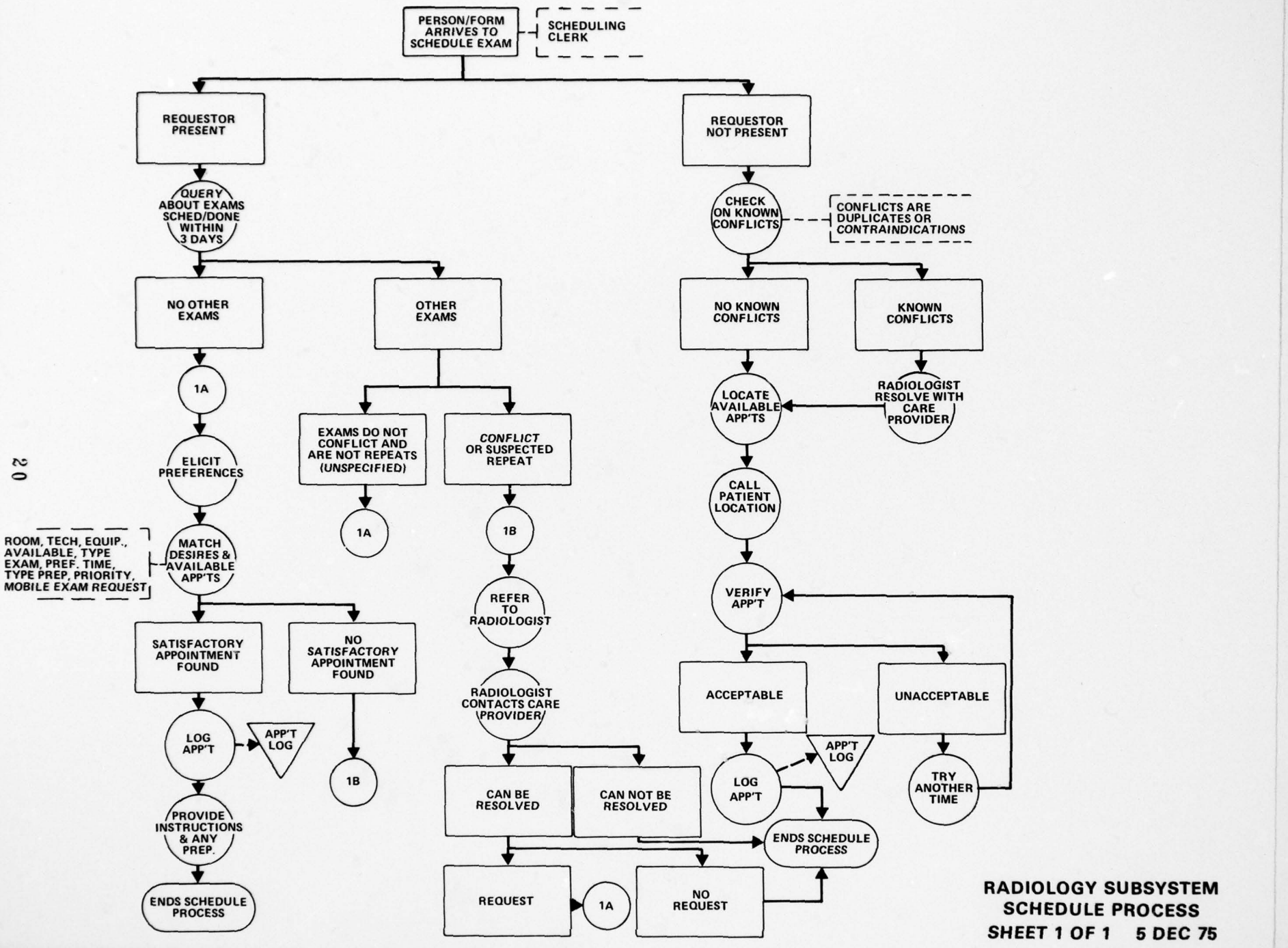
RADIOLOGY SUBSYSTEM
RECEPTION PROCESS
SHEET 4 OF 4 5 DEC 75



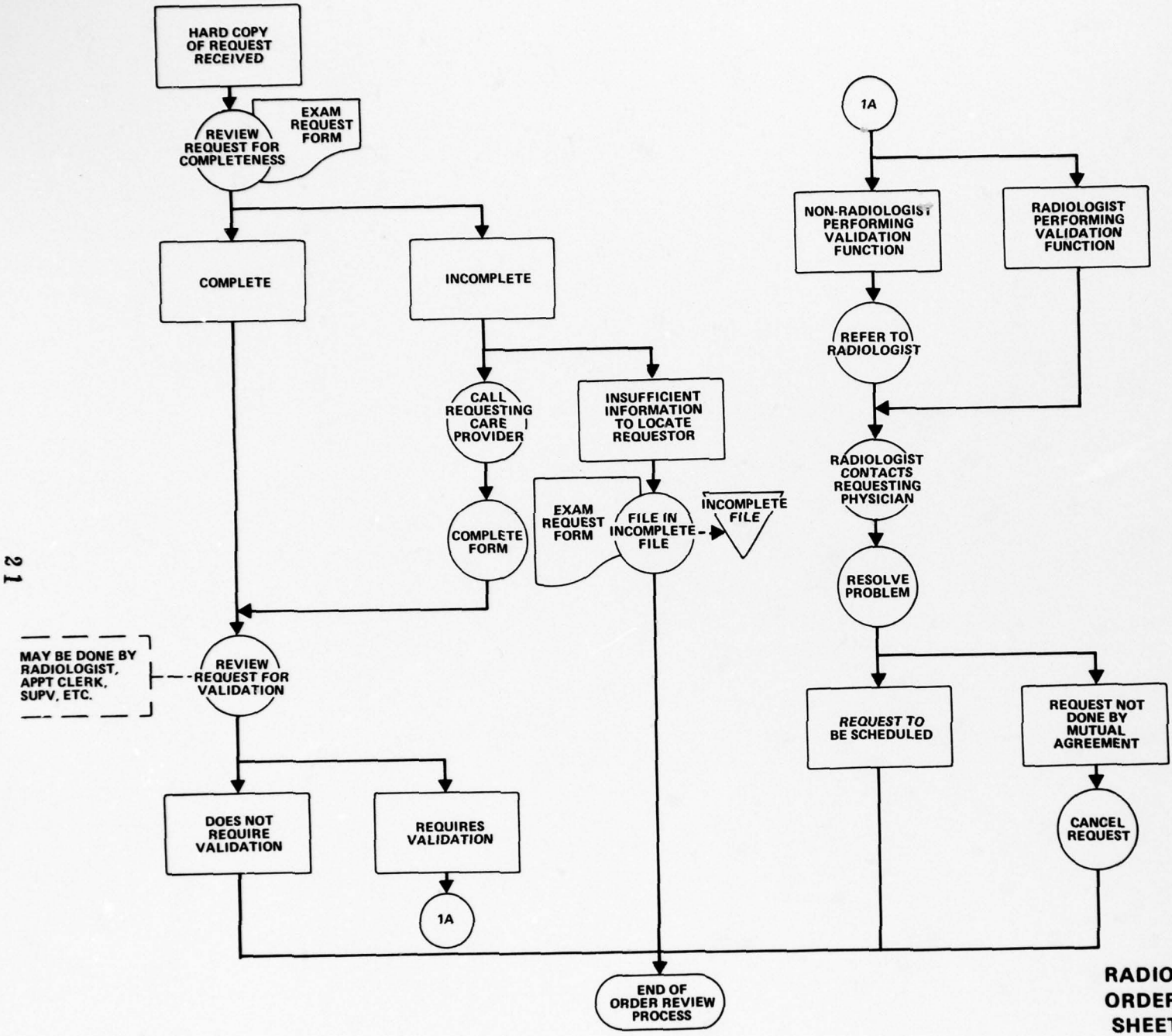
RADIOLOGY SUBSYSTEM
APPOINTMENT PROCESS
SHEET 1 OF 2 5 DEC 75



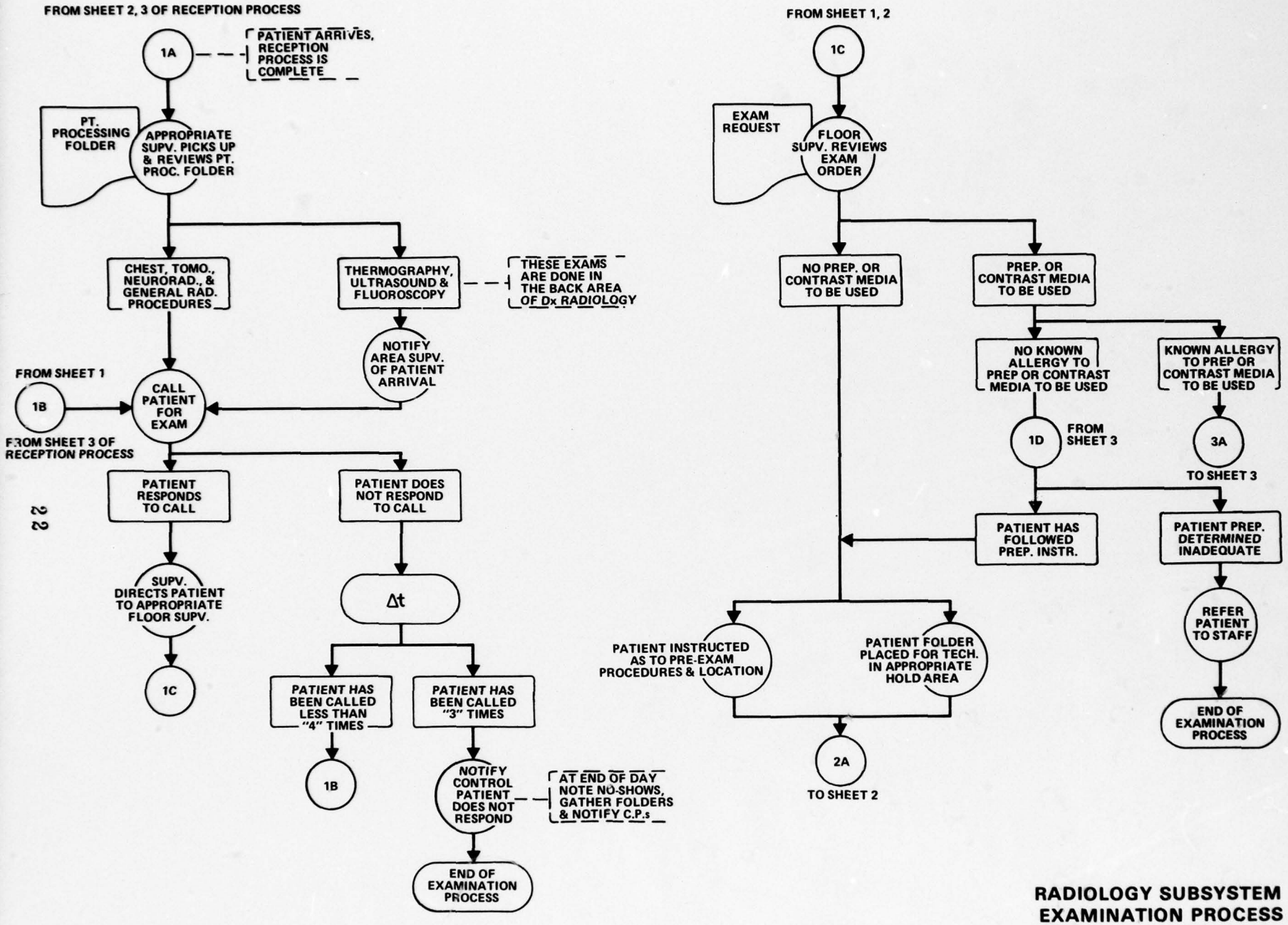
RADIOLOGY SUBSYSTEM
APPOINTMENT PROCESS
SHEET 2 OF 2 5 DEC 75



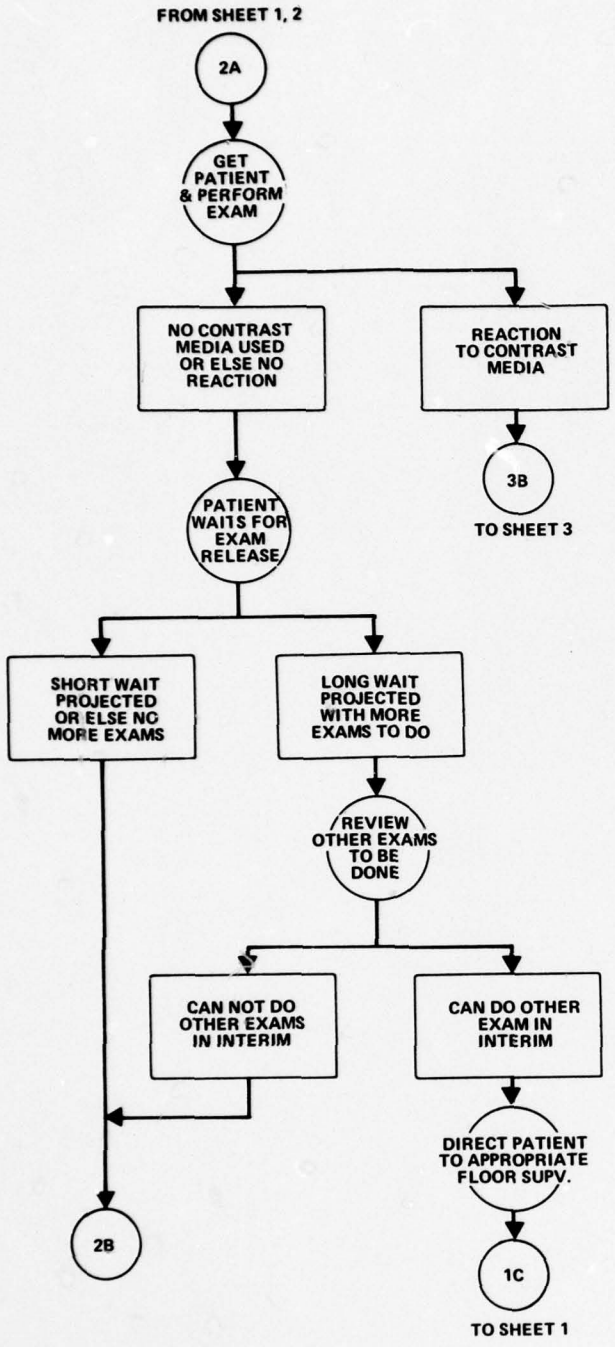
RADIOLOGY SUBSYSTEM
SCHEDULE PROCESS
SHEET 1 OF 1 5 DEC 75

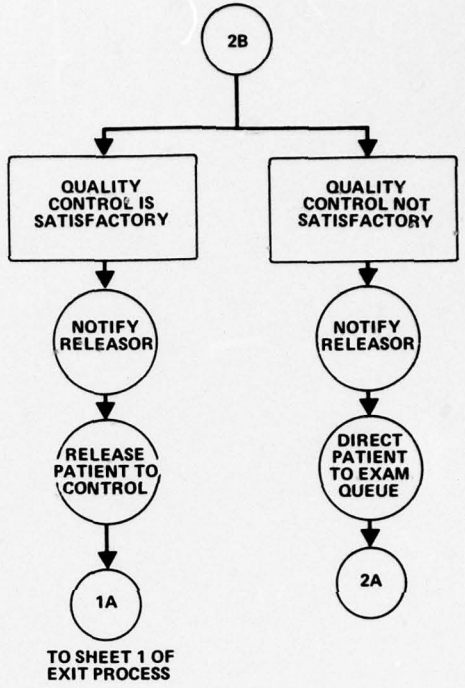


RADIOLOGY SUBSYSTEM
ORDER REVIEW PROCESS
SHEET 1 OF 1 5 DEC 75

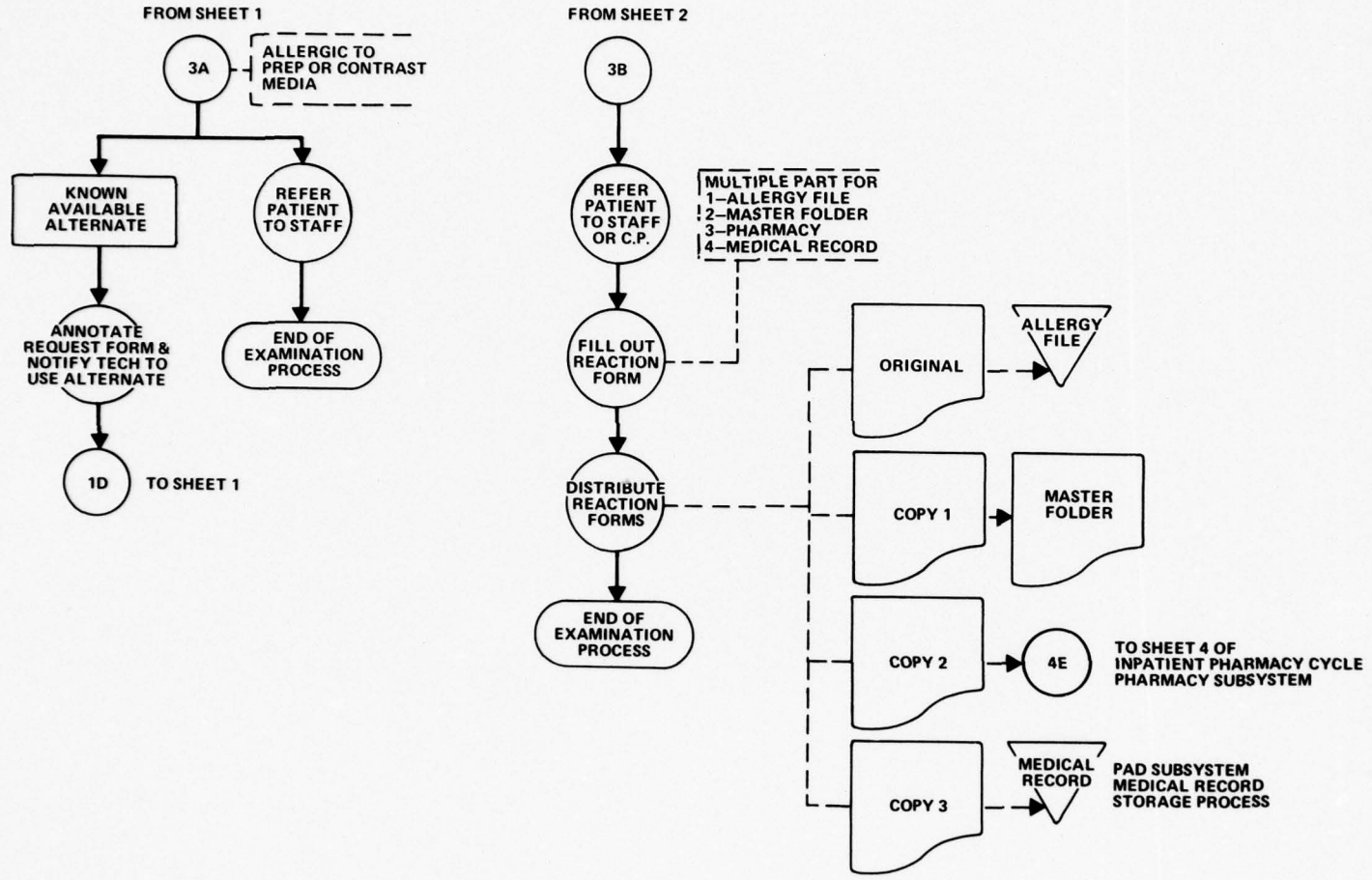


RADIOLOGY SUBSYSTEM
EXAMINATION PROCESS
SHEET 1 OF 3 5 DEC 75

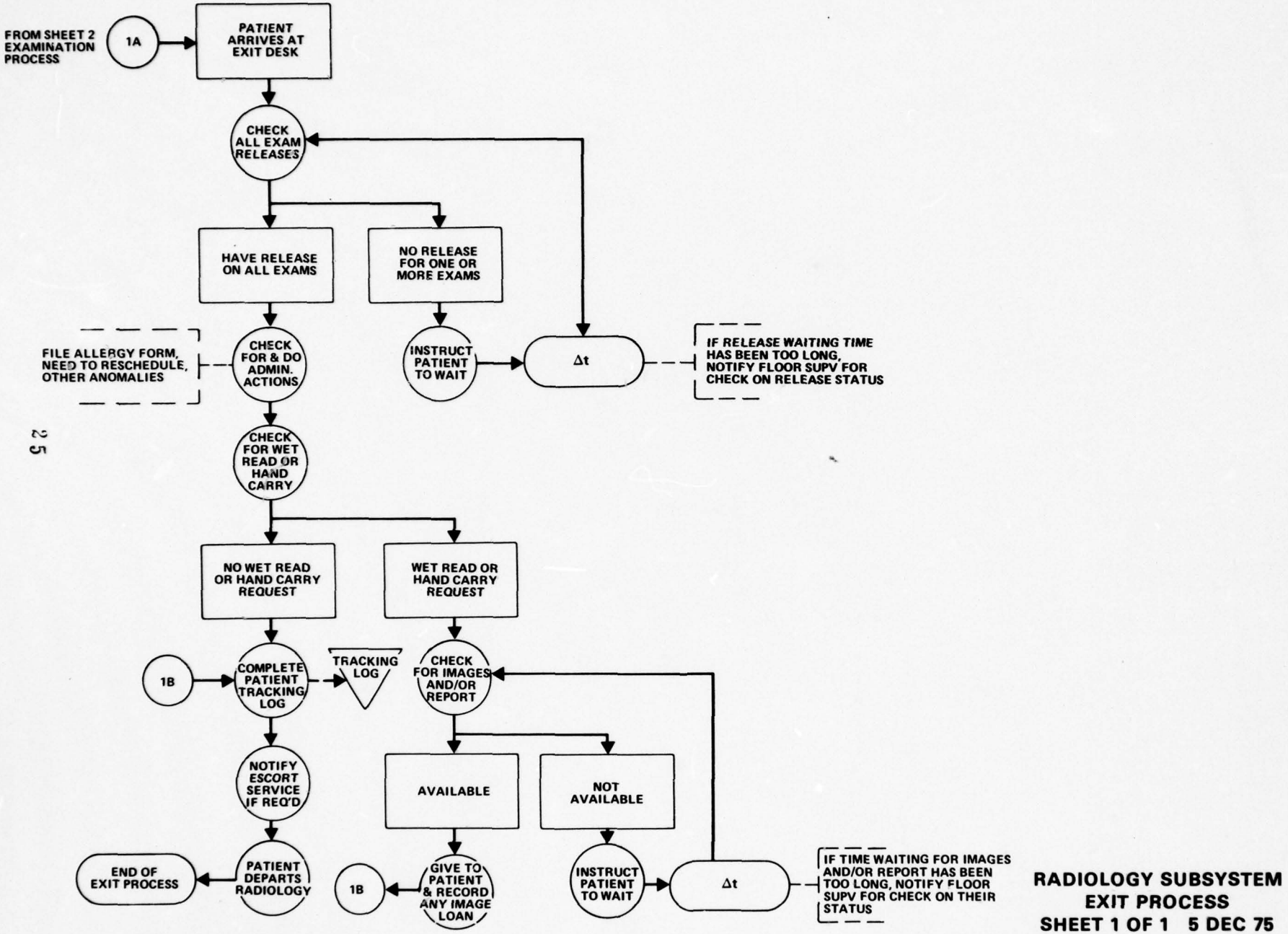




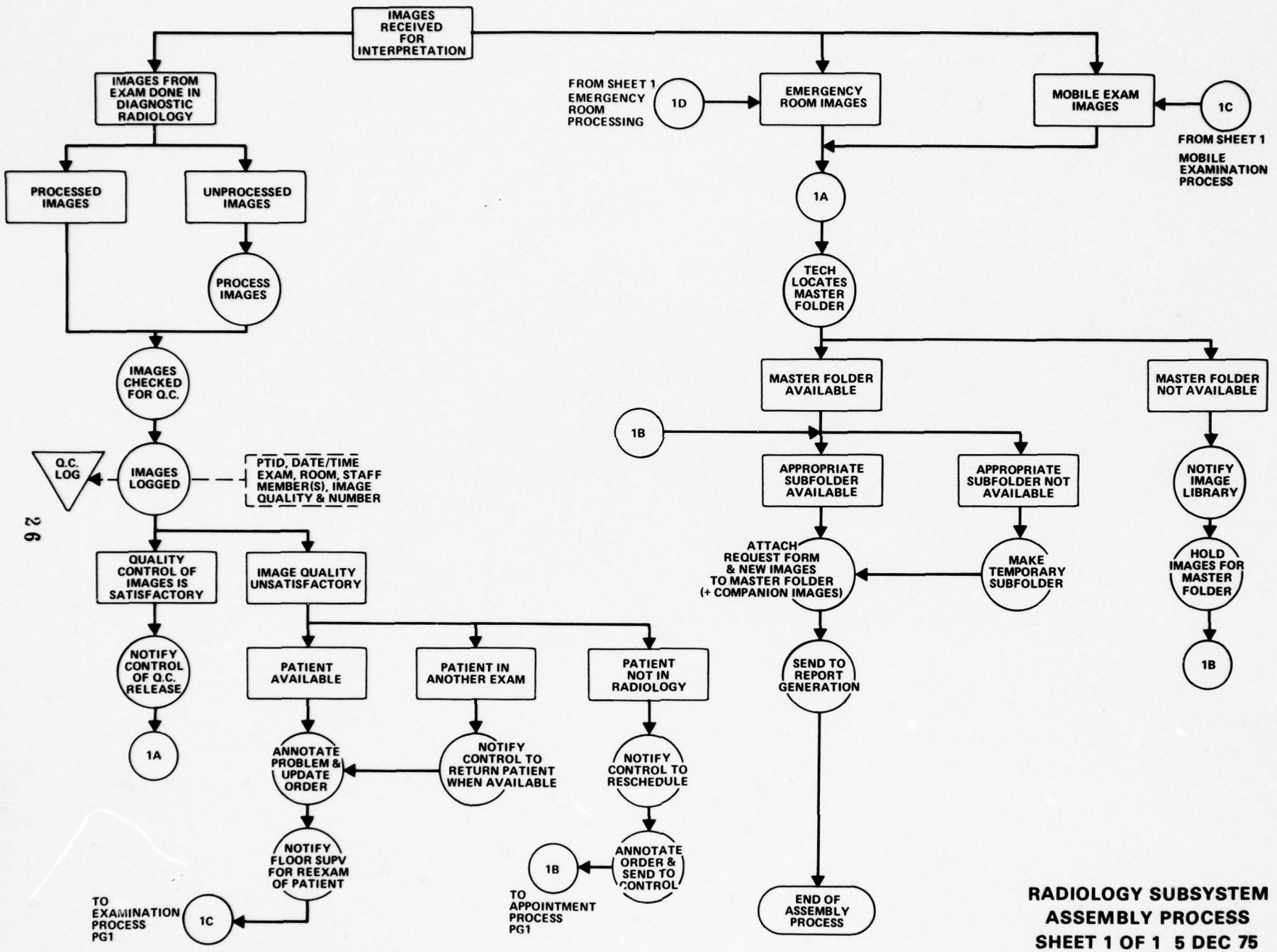
RADIOLOGY SUBSYSTEM
EXAMINATION PROCESS
SHEET 2 OF 3 5 DEC 75



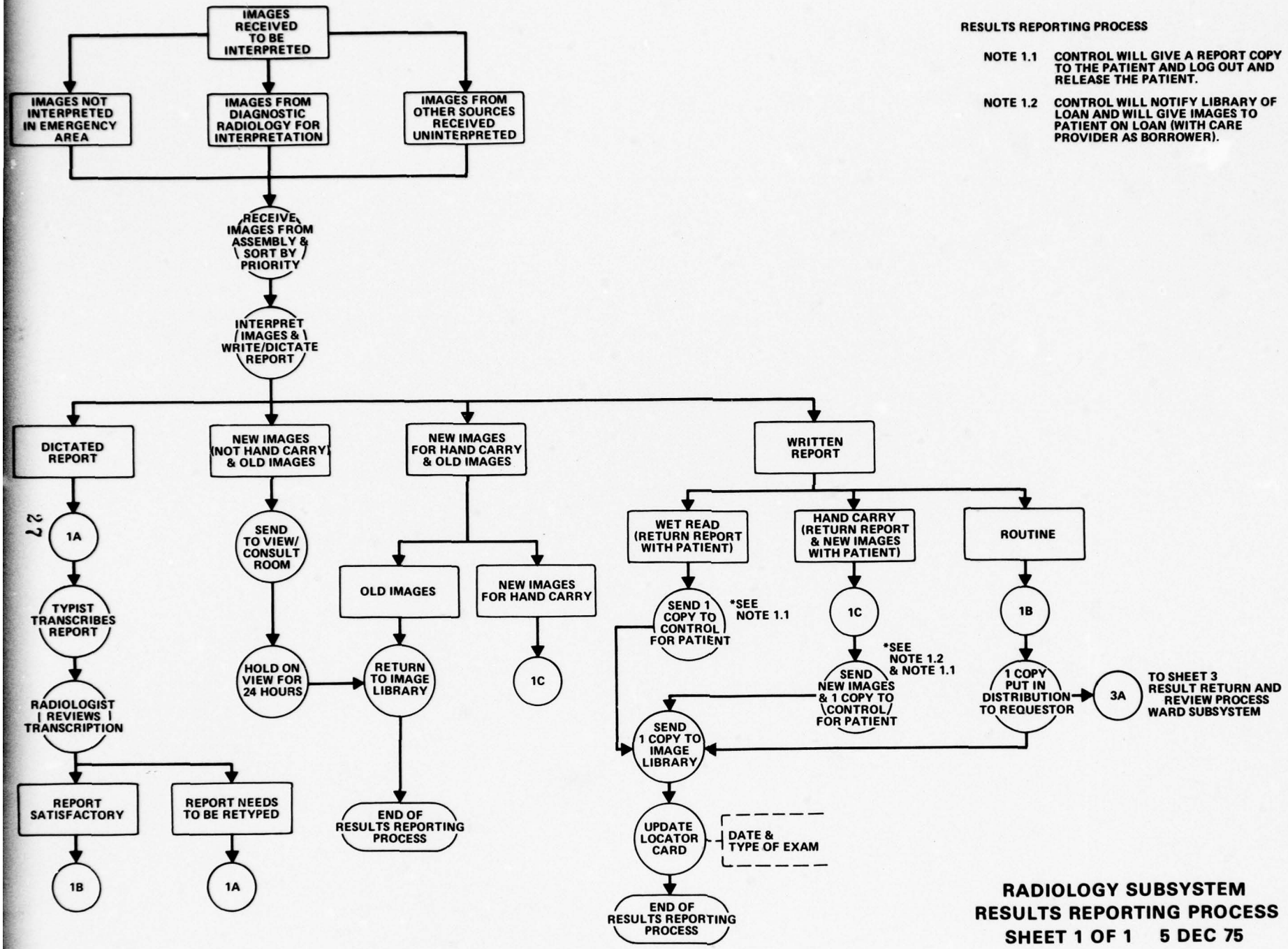
RADIOLOGY SUBSYSTEM
EXAMINATION PROCESS
SHEET 3 OF 3 5 DEC 75



RADIOLOGY SUBSYSTEM
EXIT PROCESS
SHEET 1 OF 1 5 DEC 75



RADIOLOGY SUBSYSTEM ASSEMBLY PROCESS
SHEET 1 OF 1 5 DEC 75

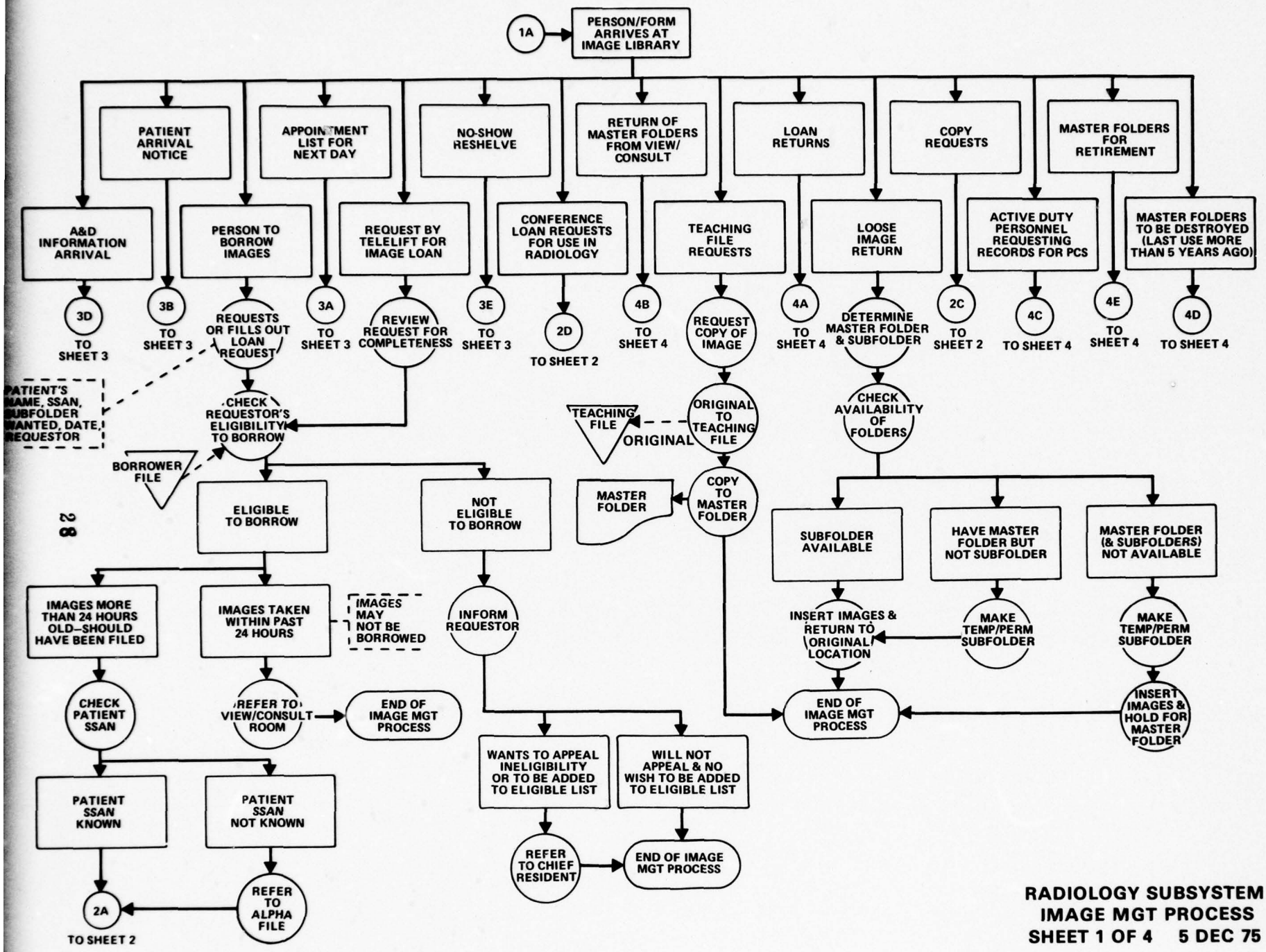


RESULTS REPORTING PROCESS

NOTE 1.1 CONTROL WILL GIVE A REPORT COPY TO THE PATIENT AND LOG OUT AND RELEASE THE PATIENT.

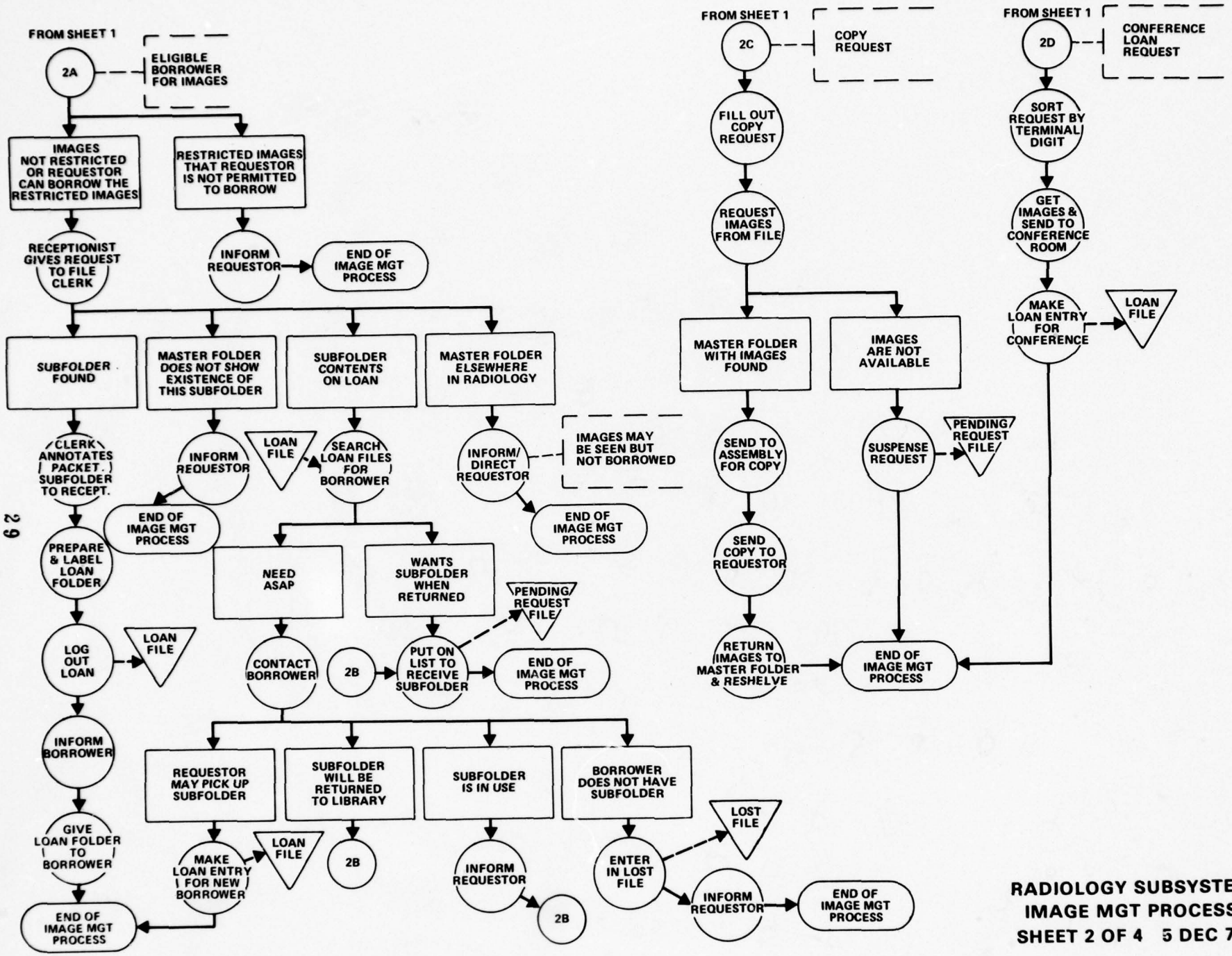
NOTE 1.2 CONTROL WILL NOTIFY LIBRARY OF LOAN AND WILL GIVE IMAGES TO PATIENT ON LOAN (WITH CARE PROVIDER AS BORROWER).

RADIOLOGY SUBSYSTEM
RESULTS REPORTING PROCESS
SHEET 1 OF 1 5 DEC 75

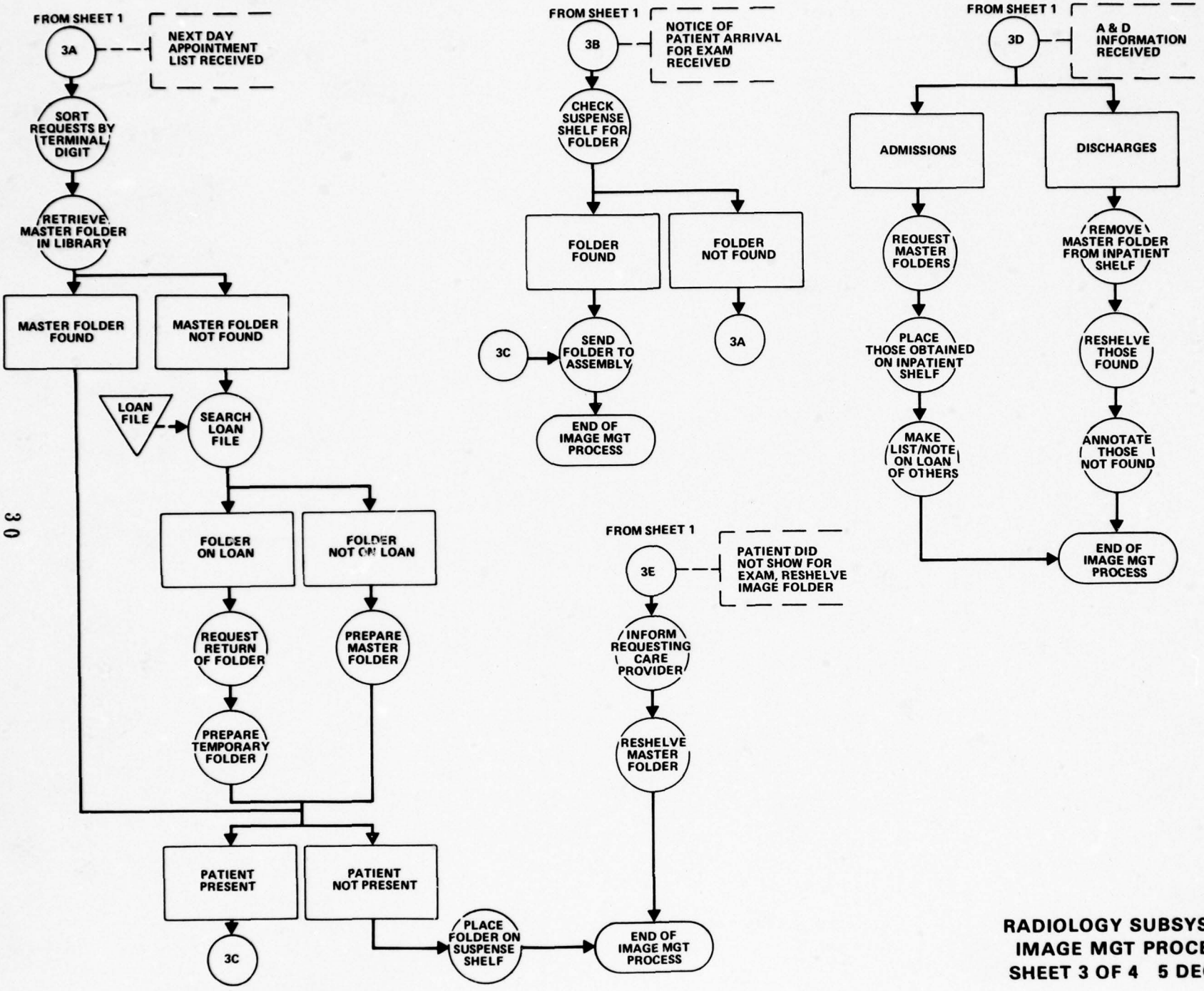


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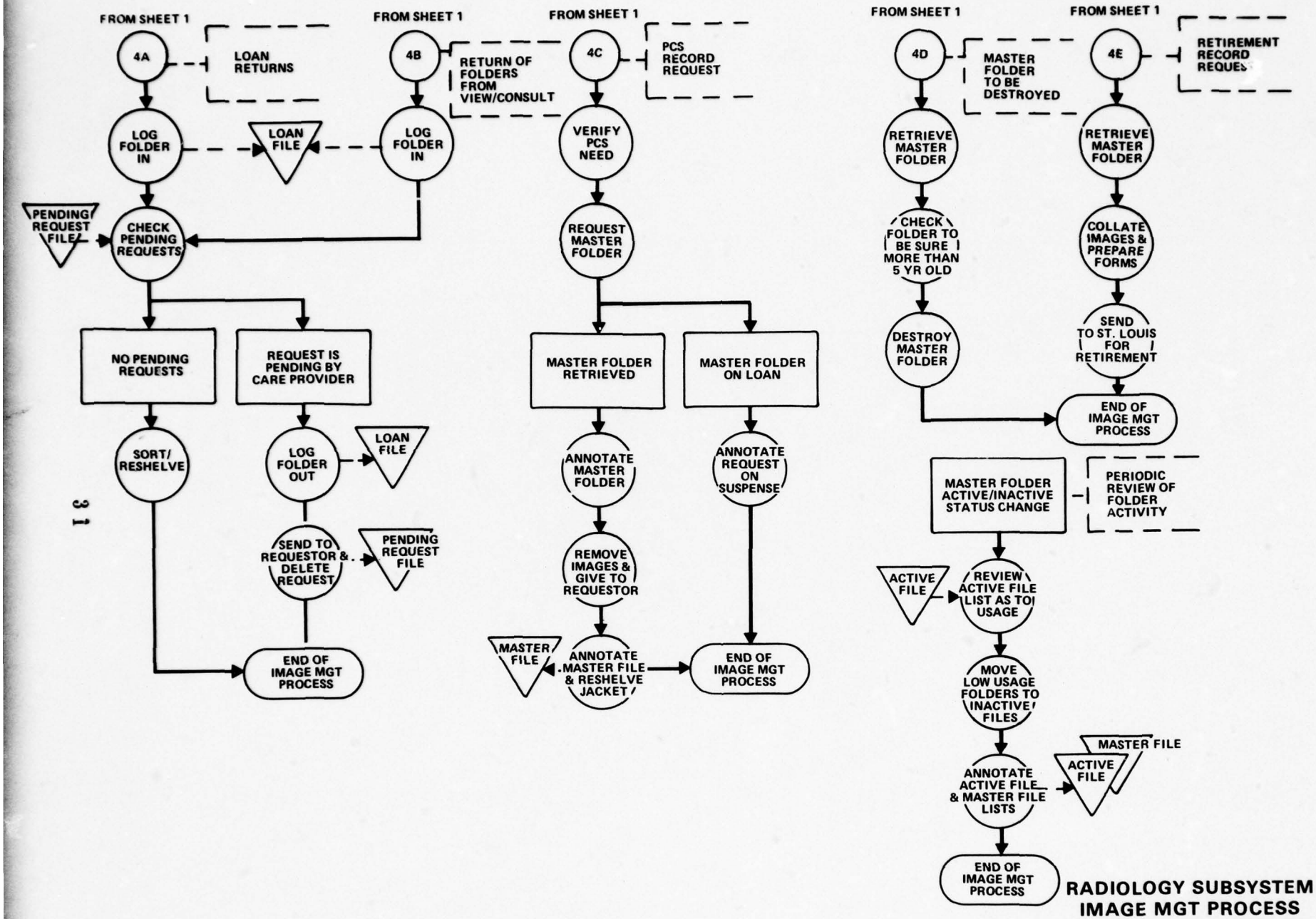
RADIOLOGY SUBSYSTEM
IMAGE MGT PROCESS
SHEET 1 OF 4 5 DEC 75



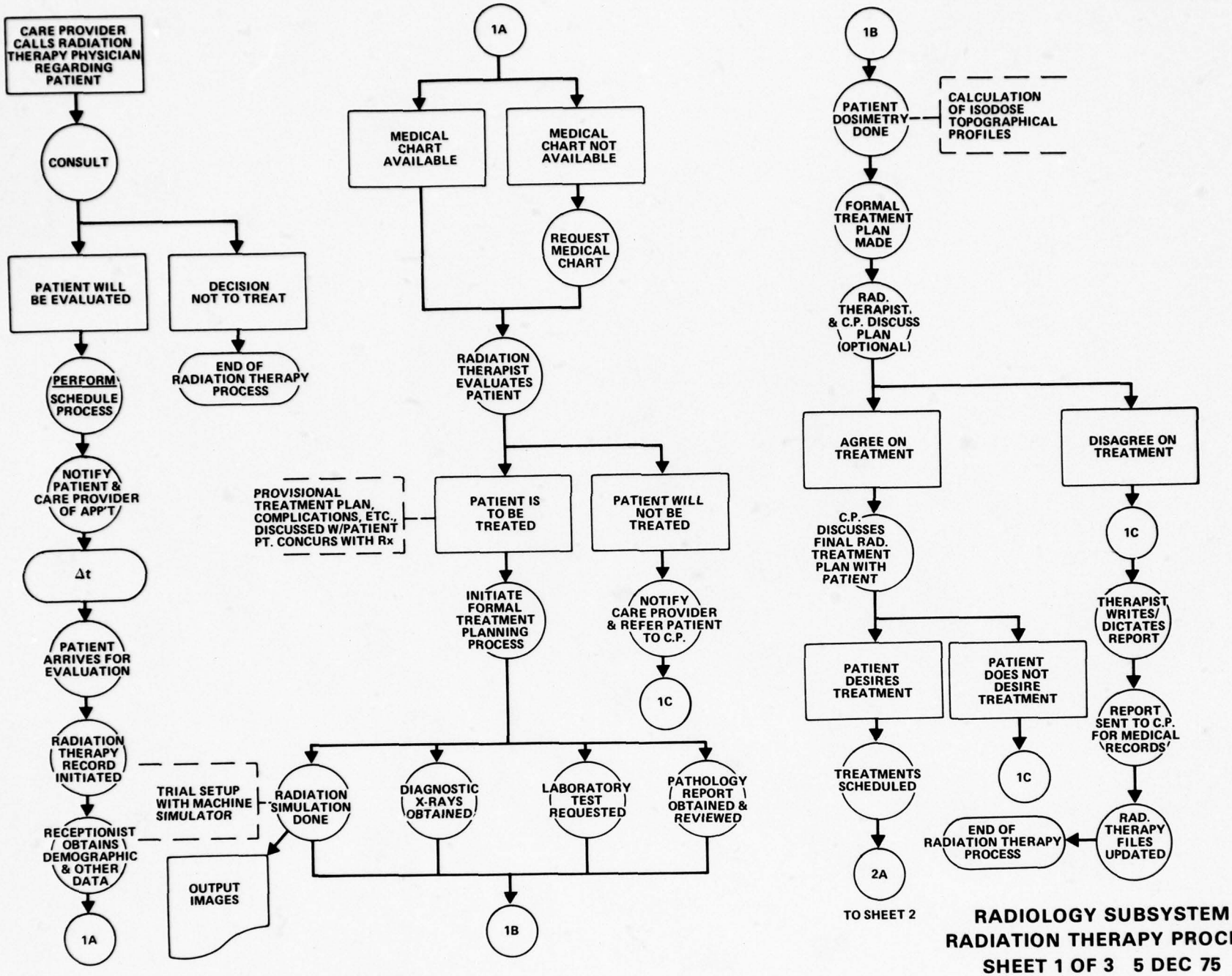
RADIOLOGY SUBSYSTEM
IMAGE MGT PROCESS
SHEET 2 OF 4 5 DEC 75



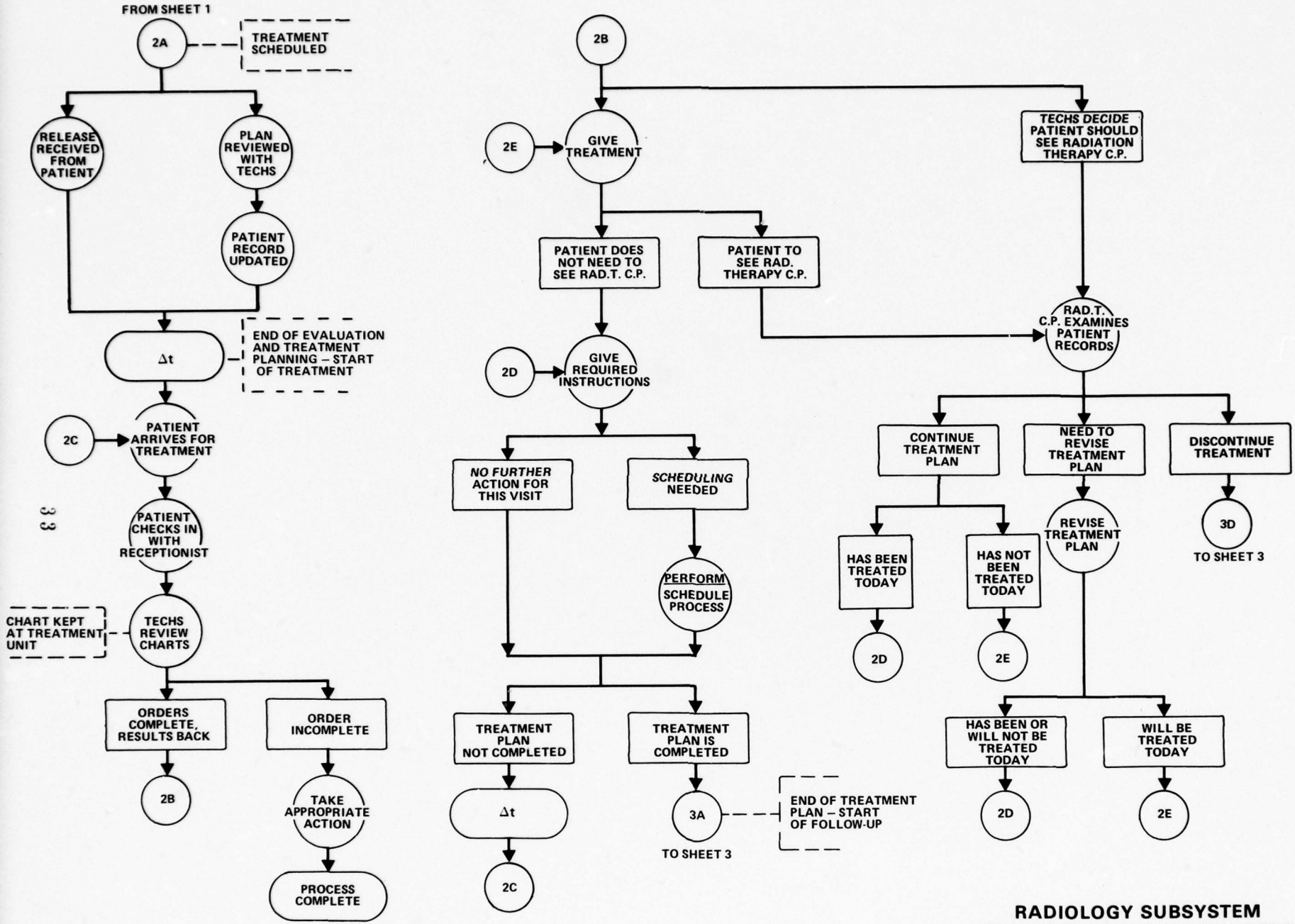
RADIOLOGY SUBSYSTEM
IMAGE MGT PROCESS
SHEET 3 OF 4 5 DEC 75



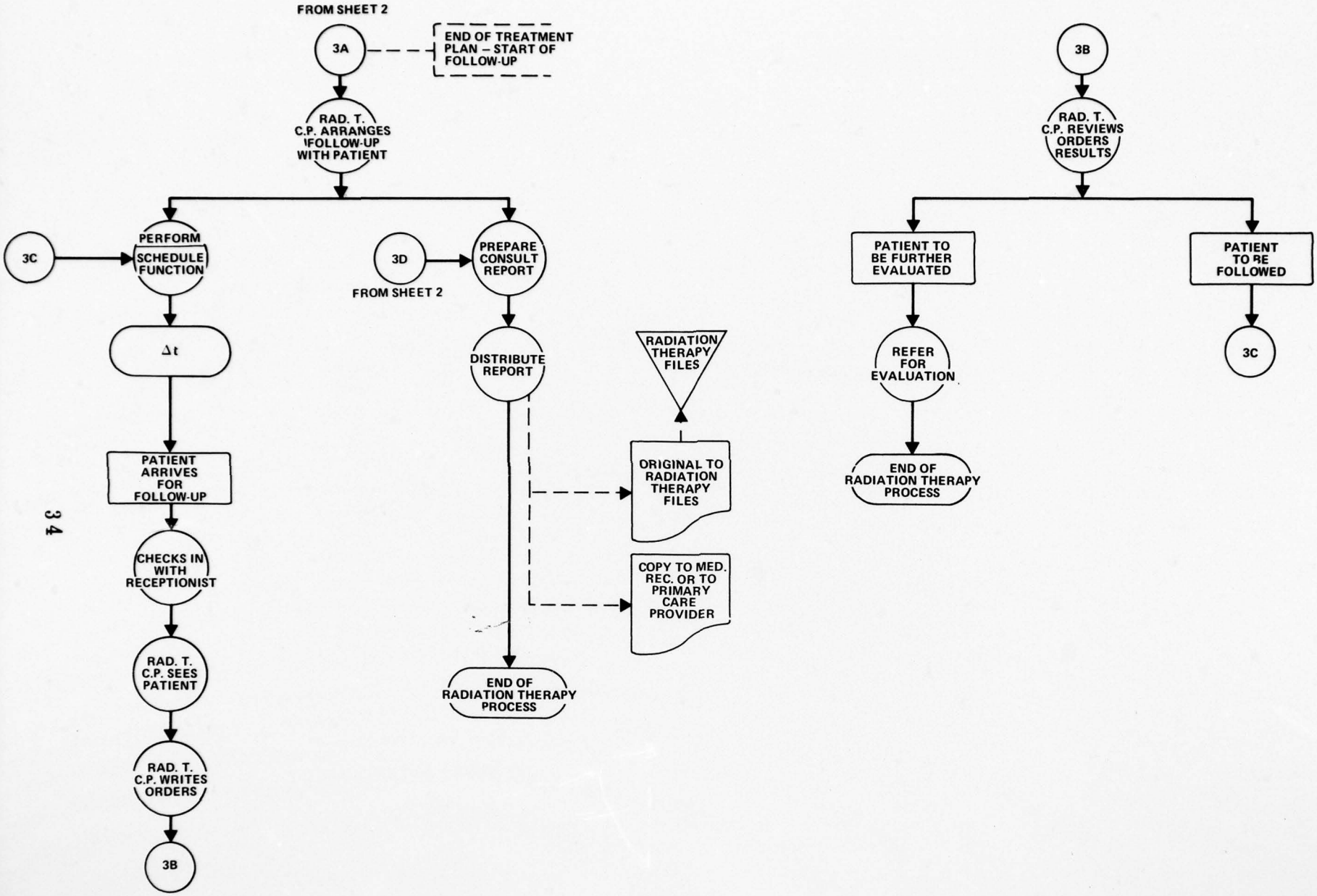
RADIOLOGY SUBSYSTEM
IMAGE MGT PROCESS
SHEET 4 OF 4 5 DEC 75



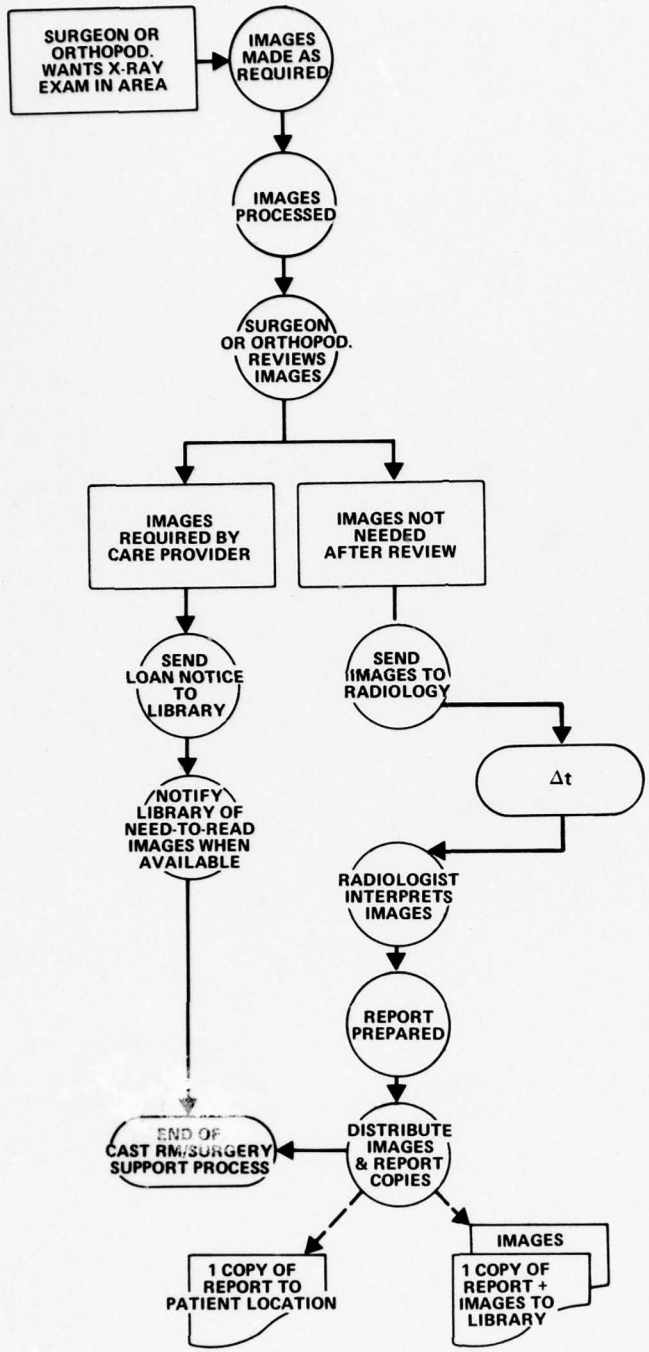
RADIOLOGY SUBSYSTEM
RADIATION THERAPY PROCESS
SHEET 1 OF 3 5 DEC 75



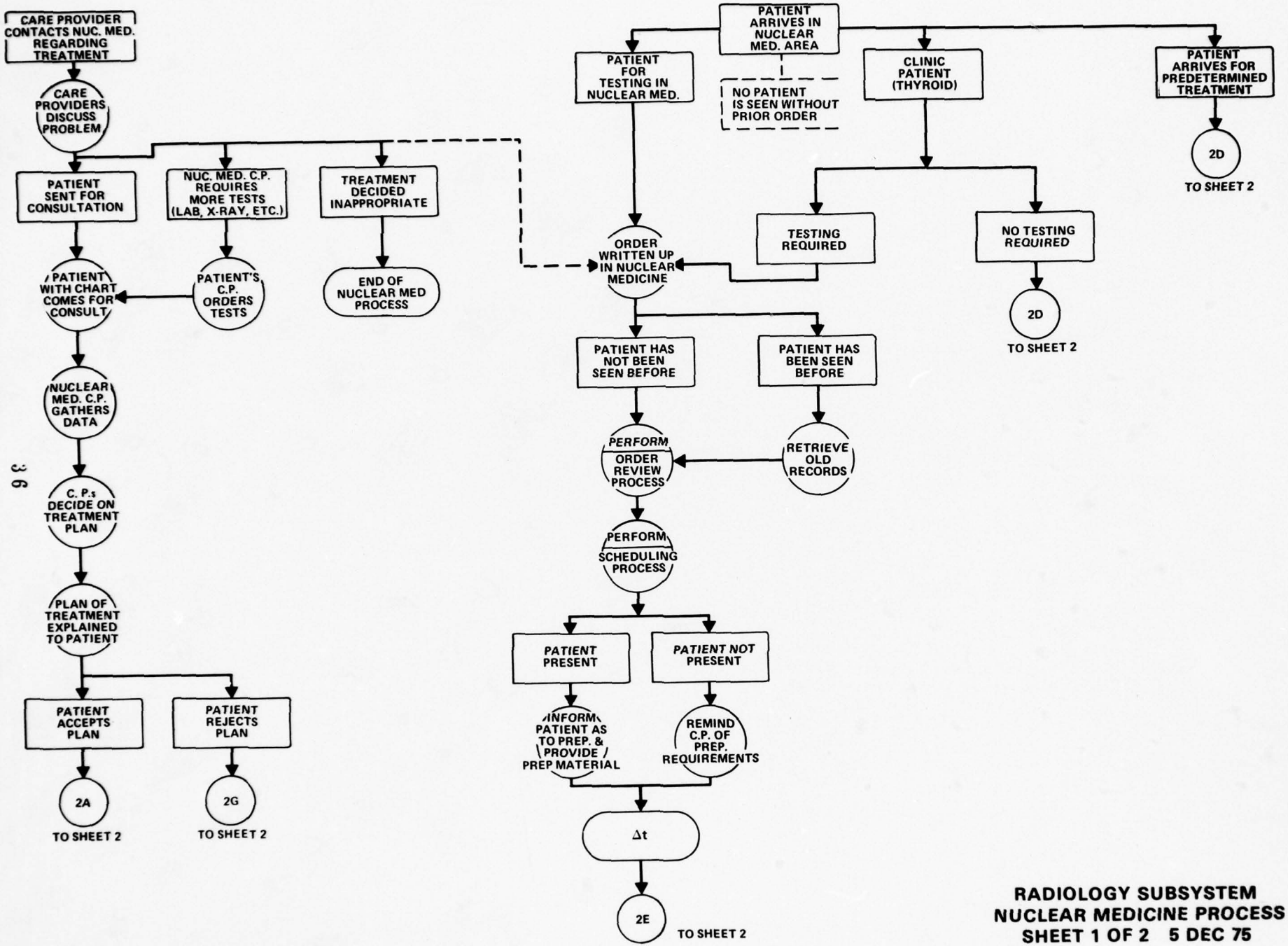
RADIOLOGY SUBSYSTEM
RADIATION THERAPY PROCESS
SHEET 2 OF 3 5 DEC 75



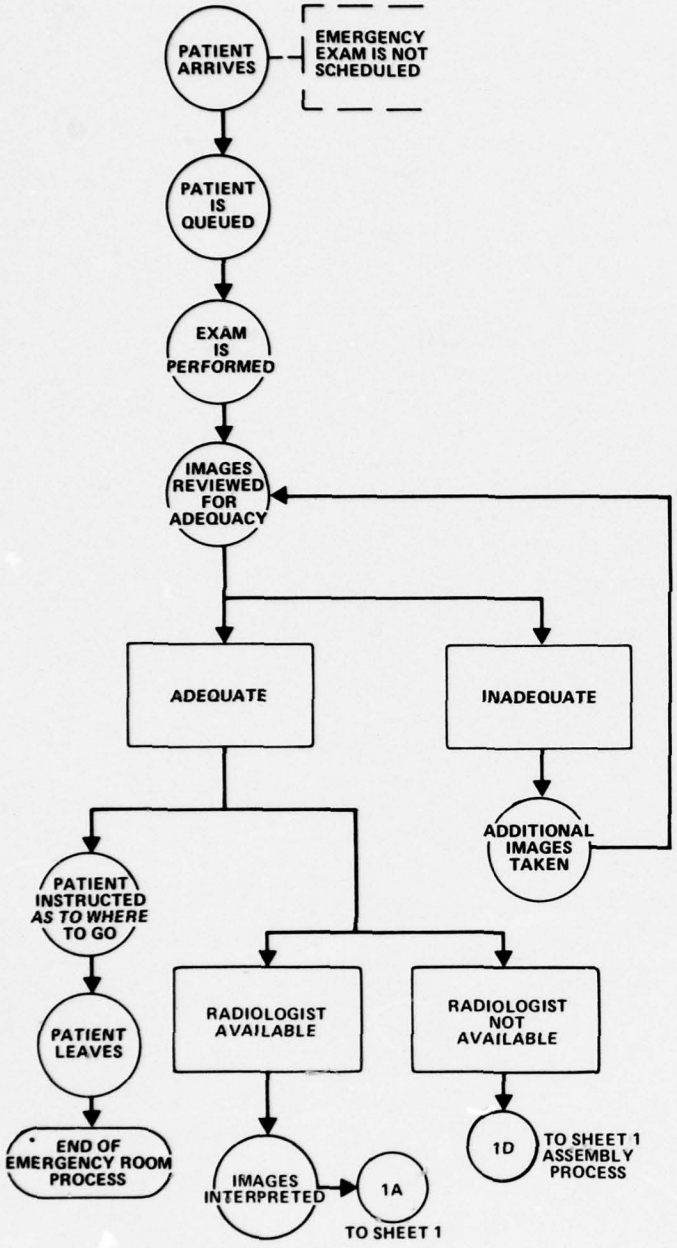
RADIOLOGY SUBSYSTEM
RADIATION THERAPY PROCESS
SHEET 3 OF 3 5 DEC 75

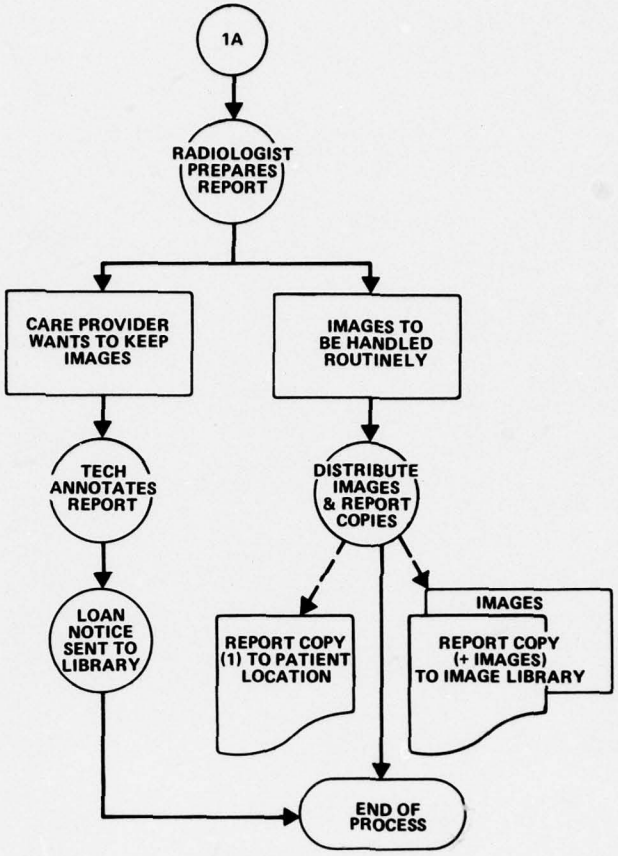


RADIOLOGY SUBSYSTEM
CAST ROOM /SURGERY SUPPORT PROCESS
SHEET 1 OF 1 5 DEC 75



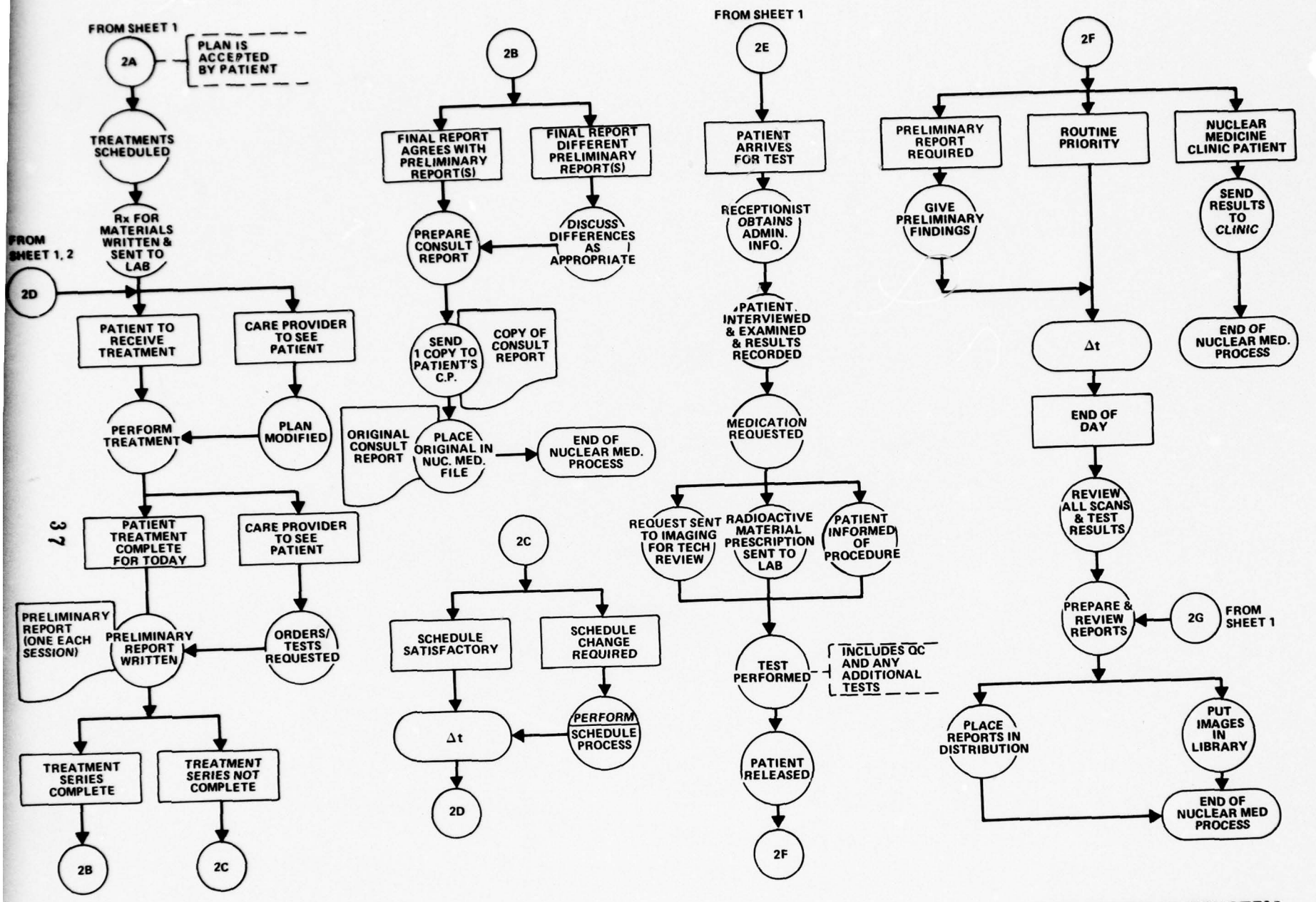
RADIOLOGY SUBSYSTEM
NUCLEAR MEDICINE PROCESS
SHEET 1 OF 2 5 DEC 75



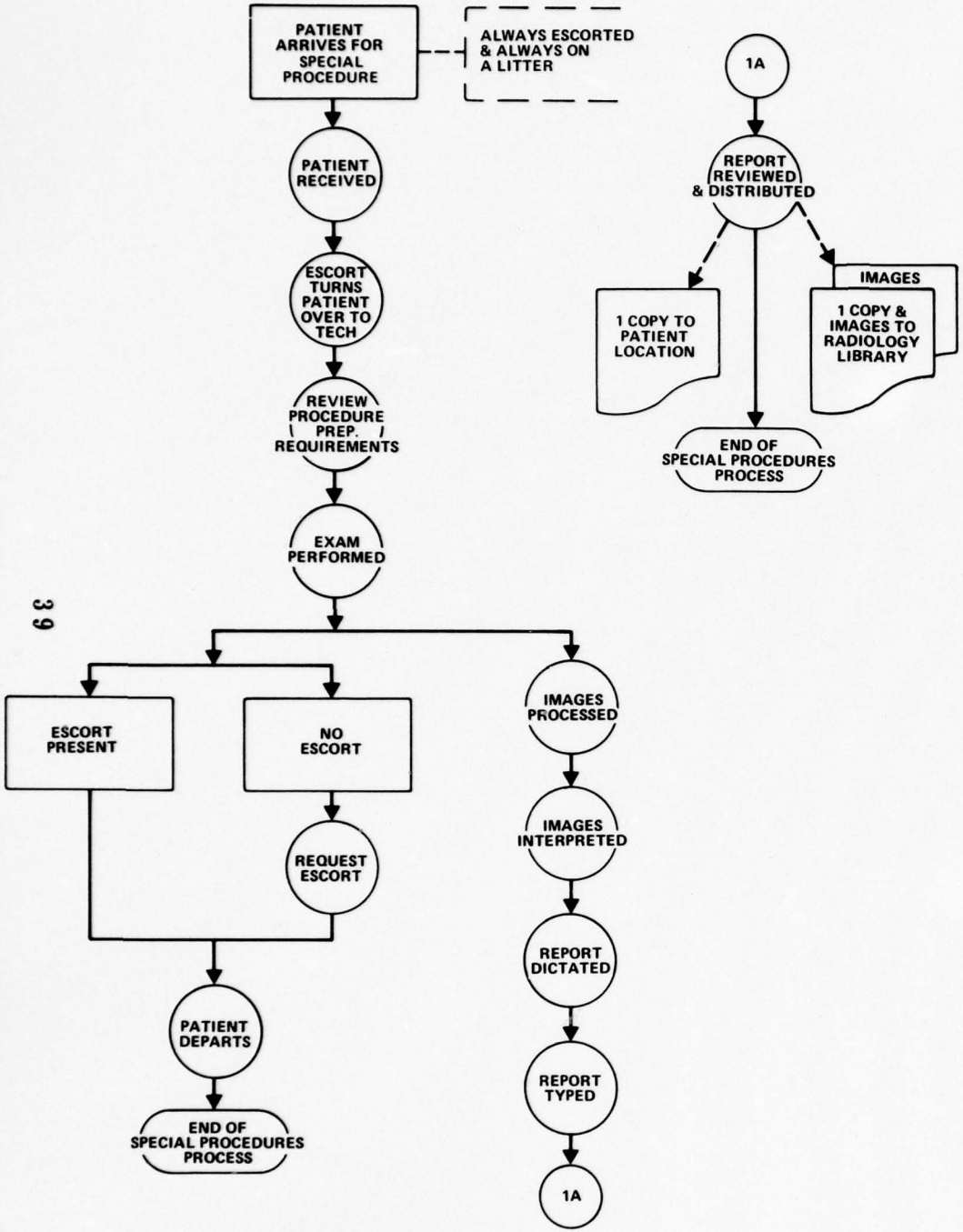


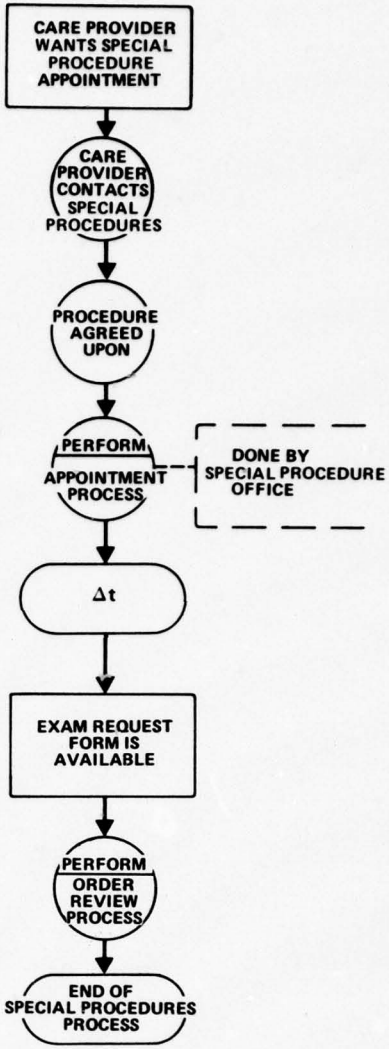
NOTE: 1 TECHNICIAN & 1 RADIOLOGIST ON DUTY, EACH ASSIGNED ON A ROTATIONAL BASIS TO THE X-RAY AREA IN EMERGENCY.

RADIOLOGY SUBSYSTEM
EMERGENCY ROOM PROCESS
SHEET 1 OF 1 5 DEC 75

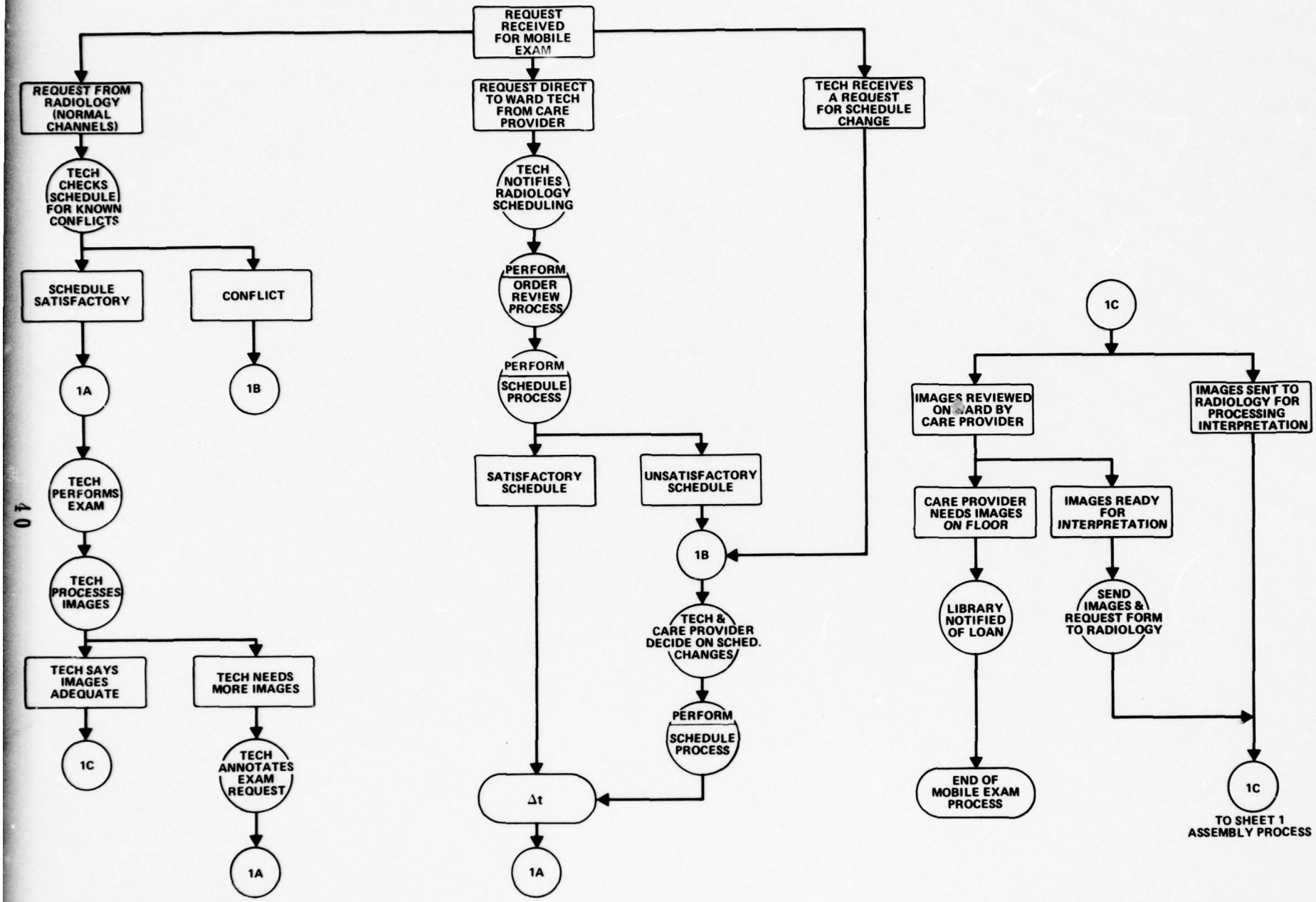


RADIOLOGY SUBSYSTEM
NUCLEAR MEDICINE PROCESS
SHEET 2 OF 2 5 DEC 75





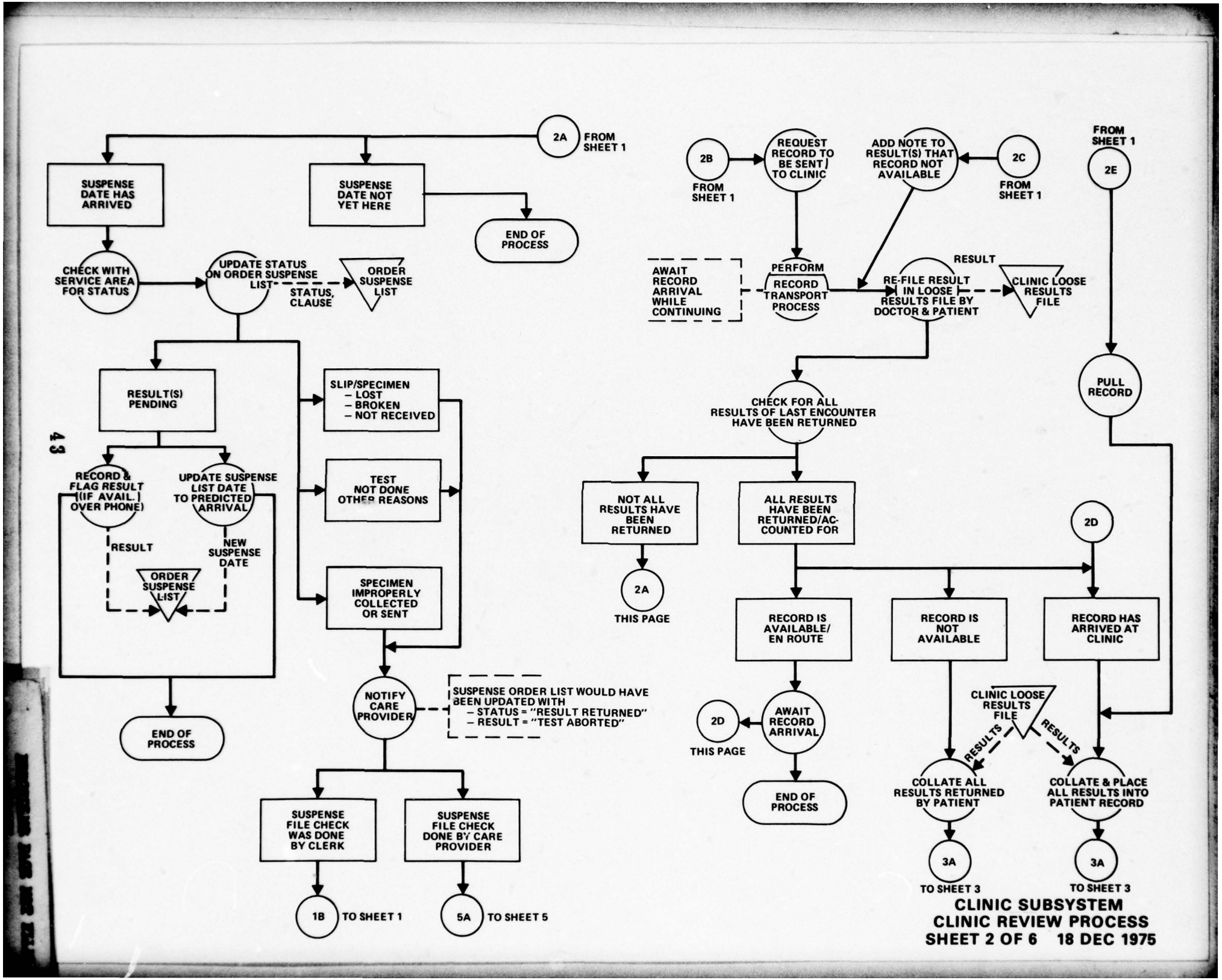
RADIOLOGY SUBSYSTEM
SPECIAL PROCEDURES PROCESS
SHEET 1 OF 1 5 DEC 75

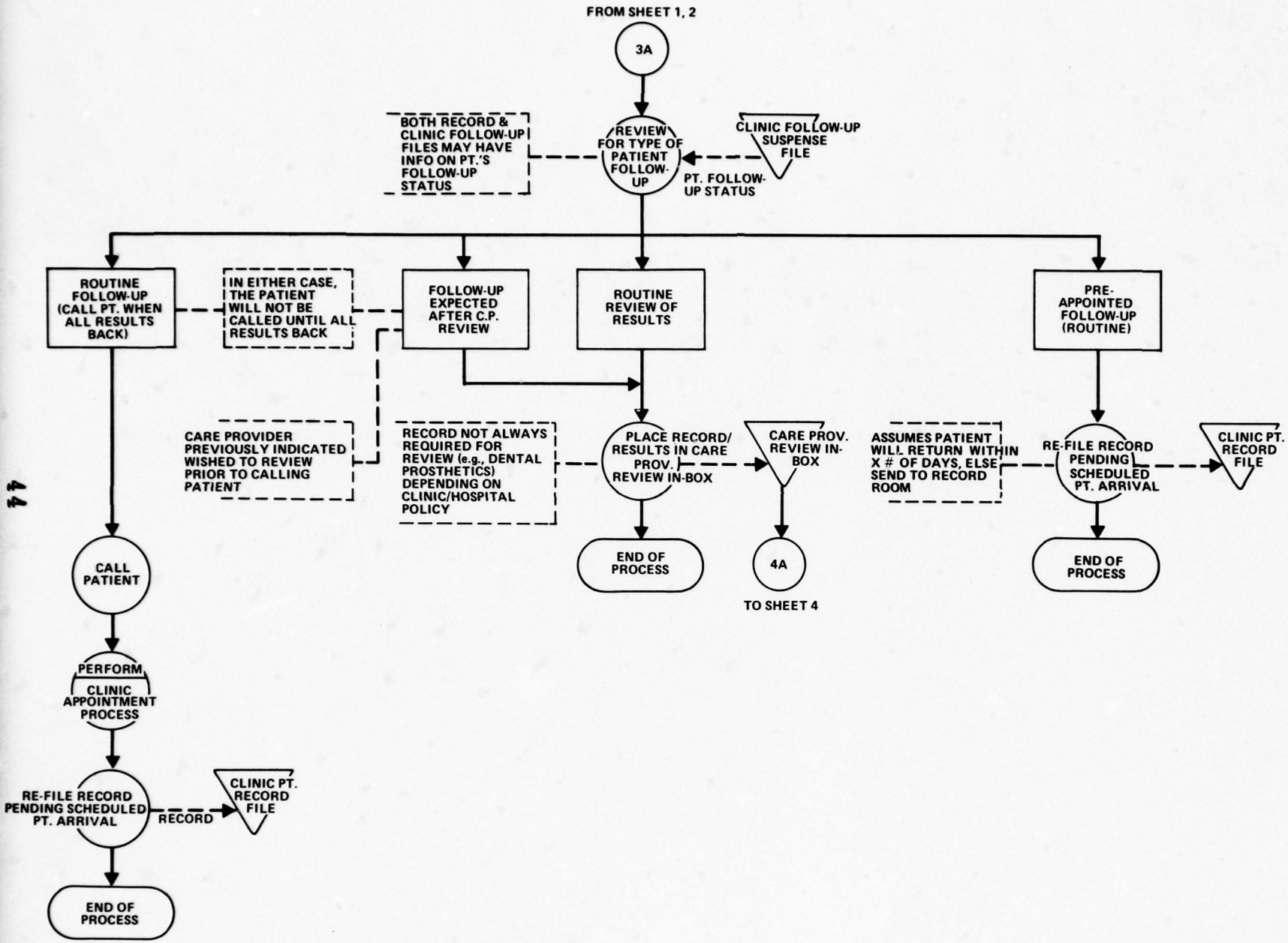


RADIOLOGY SUBSYSTEM
MOBILE EXAM PROCESS
SHEET 1 OF 1 5 DEC 75

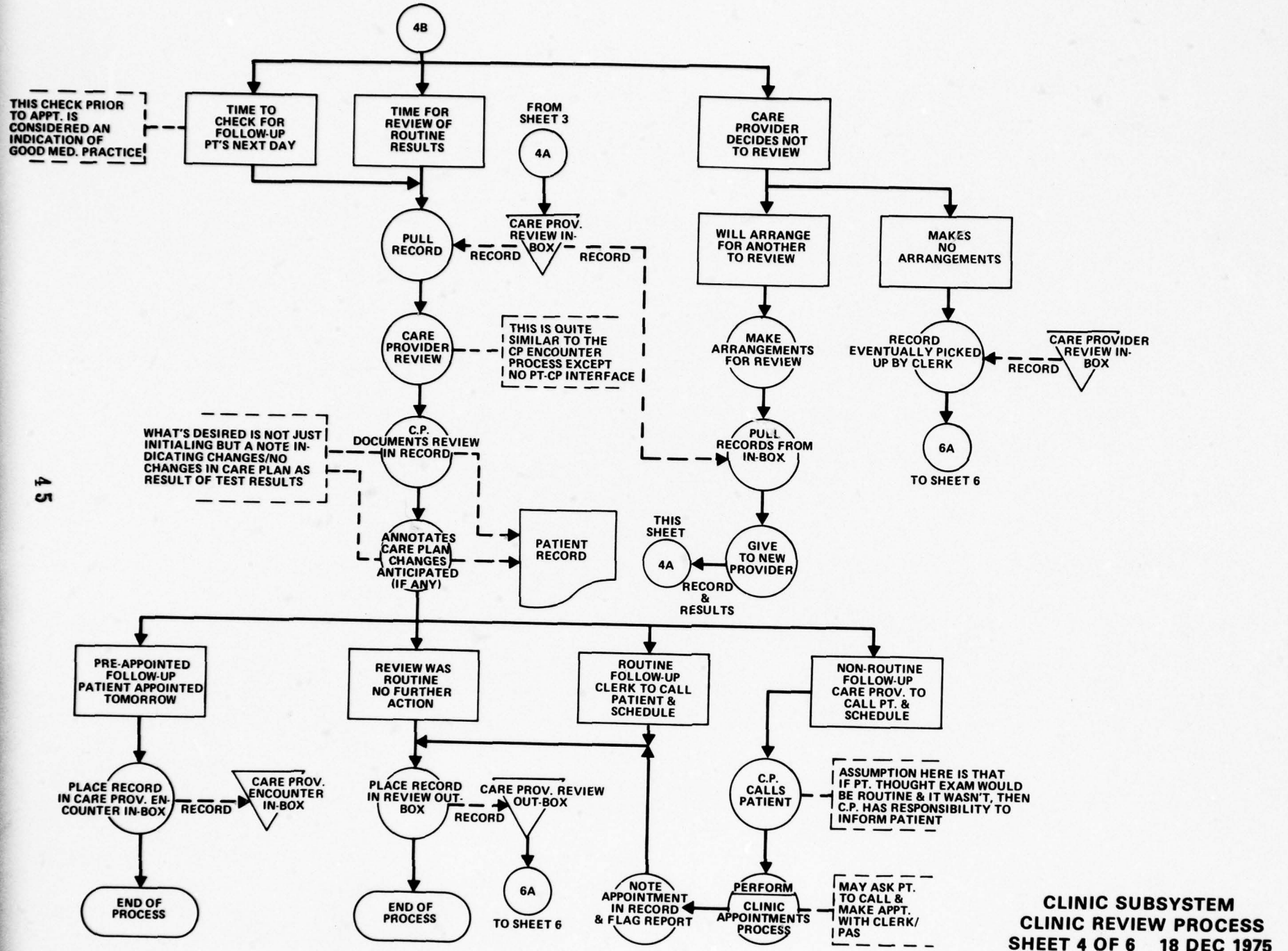
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2A
FROM SHEET 1
SUSPENSE DATE HAS ARRIVED
SUSPENSE DATE NOT YET HERE
END OF PROCESS
CHECK WITH SERVICE AREA FOR STATUS
UPDATE STATUS ON ORDER SUSPENSE LIST
STATUS, CLAUSE
ORDER SUSPENSE LIST
RESULT(S) PENDING
SLIP/SPECIMEN
– LOST
– BROKEN
– NOT RECEIVED
TEST NOT DONE OTHER REASONS
SPECIMEN IMPROPERLY COLLECTED OR SENT
RECORD & FLAG RESULT (IF AVAIL.) OVER PHONE)
UPDATE SUSPENSE LIST DATE TO PREDICTED ARRIVAL
RESULT
NEW SUSPENSE DATE
ORDER SUSPENSE LIST
END OF PROCESS
NOTIFY CARE PROVIDER
SUSPENSE ORDER LIST WOULD HAVE BEEN UPDATED WITH
– STATUS = "RESULT RETURNED"
– RESULT = "TEST ABORTED"
SUSPENSE FILE CHECK WAS DONE BY CLERK
SUSPENSE FILE CHECK DONE BY CARE PROVIDER
1B
TO SHEET 1
5A
TO SHEET 5
2B
FROM SHEET 1
REQUEST RECORD TO BE SENT TO CLINIC
ADD NOTE TO RESULT(S) THAT RECORD NOT AVAILABLE
2C
FROM SHEET 1
FROM SHEET 1
2E
AWAIT RECORD ARRIVAL WHILE CONTINUING
PERFORM RECORD TRANSPORT PROCESS
RESULT
RE-FILE RESULT IN LOOSE RESULTS FILE BY DOCTOR & PATIENT
CLINIC LOOSE RESULTS FILE
PULL RECORD
CHECK FOR ALL RESULTS OF LAST ENCOUNTER HAVE BEEN RETURNED
NOT ALL RESULTS HAVE BEEN RETURNED
2A
THIS PAGE
ALL RESULTS HAVE BEEN RETURNED/ACCOUNTED FOR
2D
RECORD IS AVAILABLE/ EN ROUTE
RECORD IS NOT AVAILABLE
RECORD HAS ARRIVED AT CLINIC
2D
THIS PAGE
AWAIT RECORD ARRIVAL
END OF PROCESS
CLINIC LOOSE RESULTS FILE
RESULTS
RESULTS
COLLATE ALL RESULTS RETURNED BY PATIENT
COLLATE & PLACE ALL RESULTS INTO PATIENT RECORD
3A
TO SHEET 3
3A
TO SHEET 3
CLINIC SUBSYSTEM
CLINIC REVIEW PROCESS
SHEET 2 OF 6 18 DEC 1975

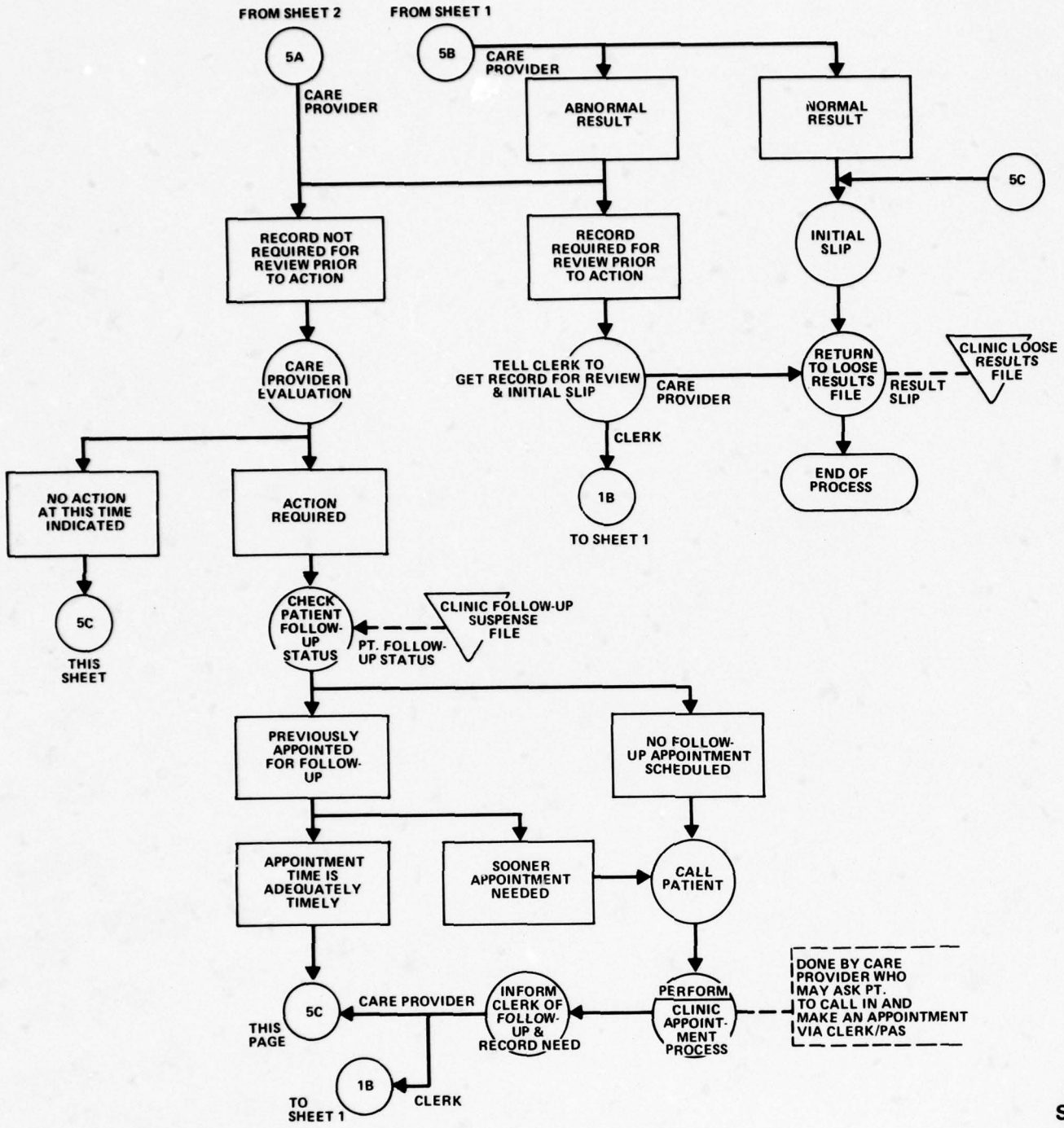


CLINIC SUBSYSTEM
CLINIC REVIEW PROCESS
SHEET 3 OF 6 18 DEC 1975

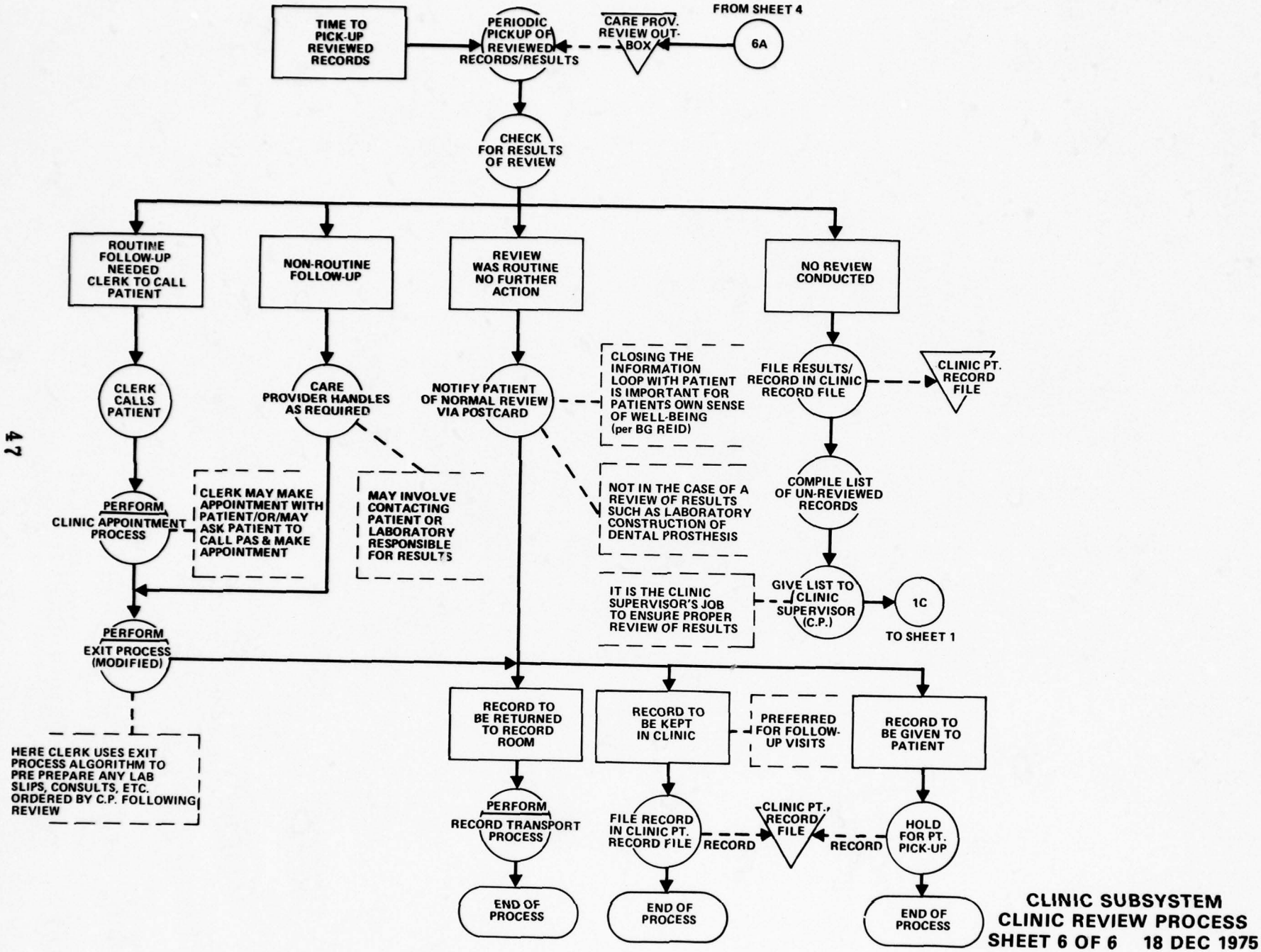


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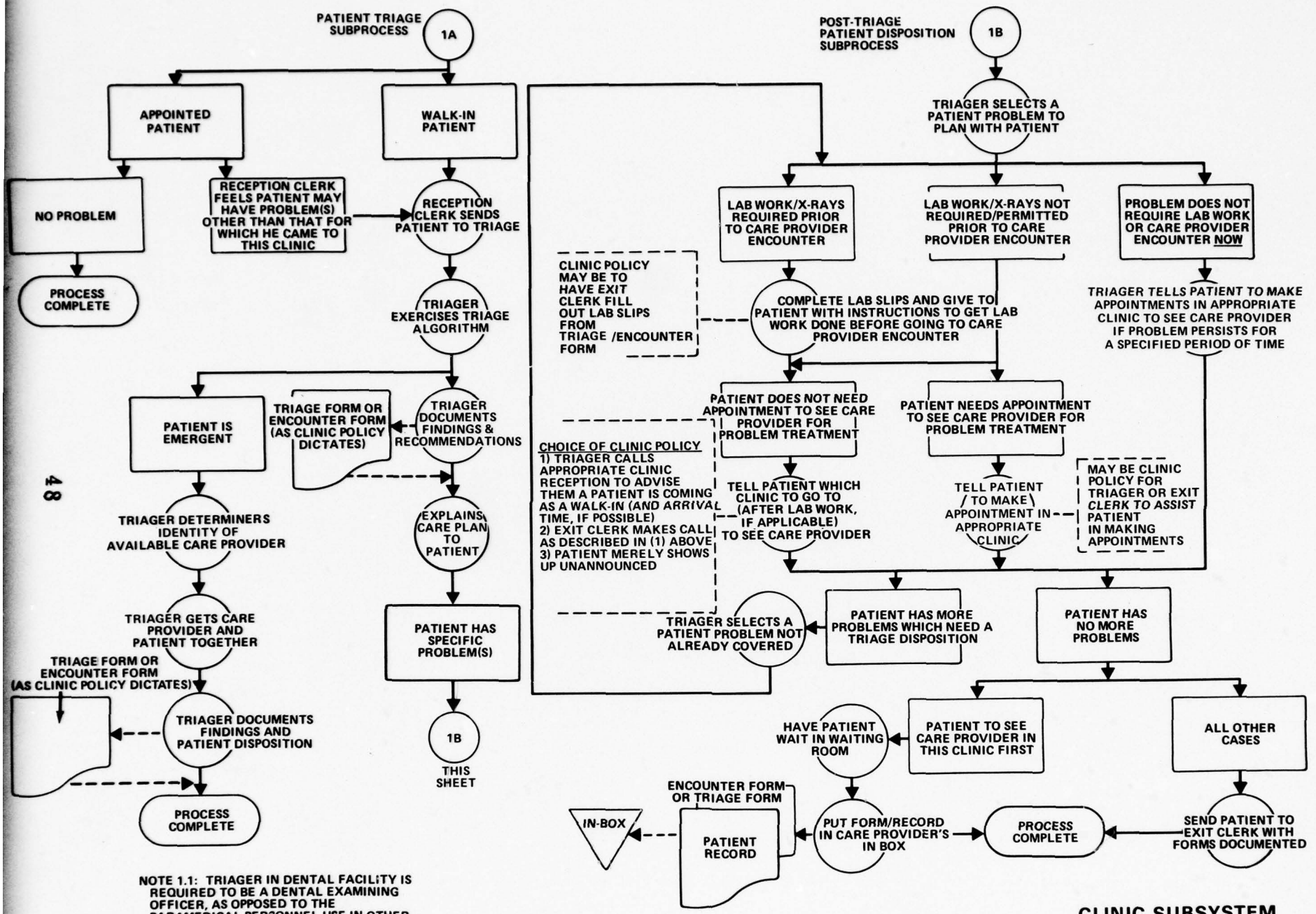
CLINIC SUBSYSTEM
CLINIC REVIEW PROCESS
SHEET 4 OF 6 18 DEC 1975



CLINIC SUBSYSTEM
CLINIC REVIEW PROCESS
SHEET 5 OF 6 18 DEC 1975

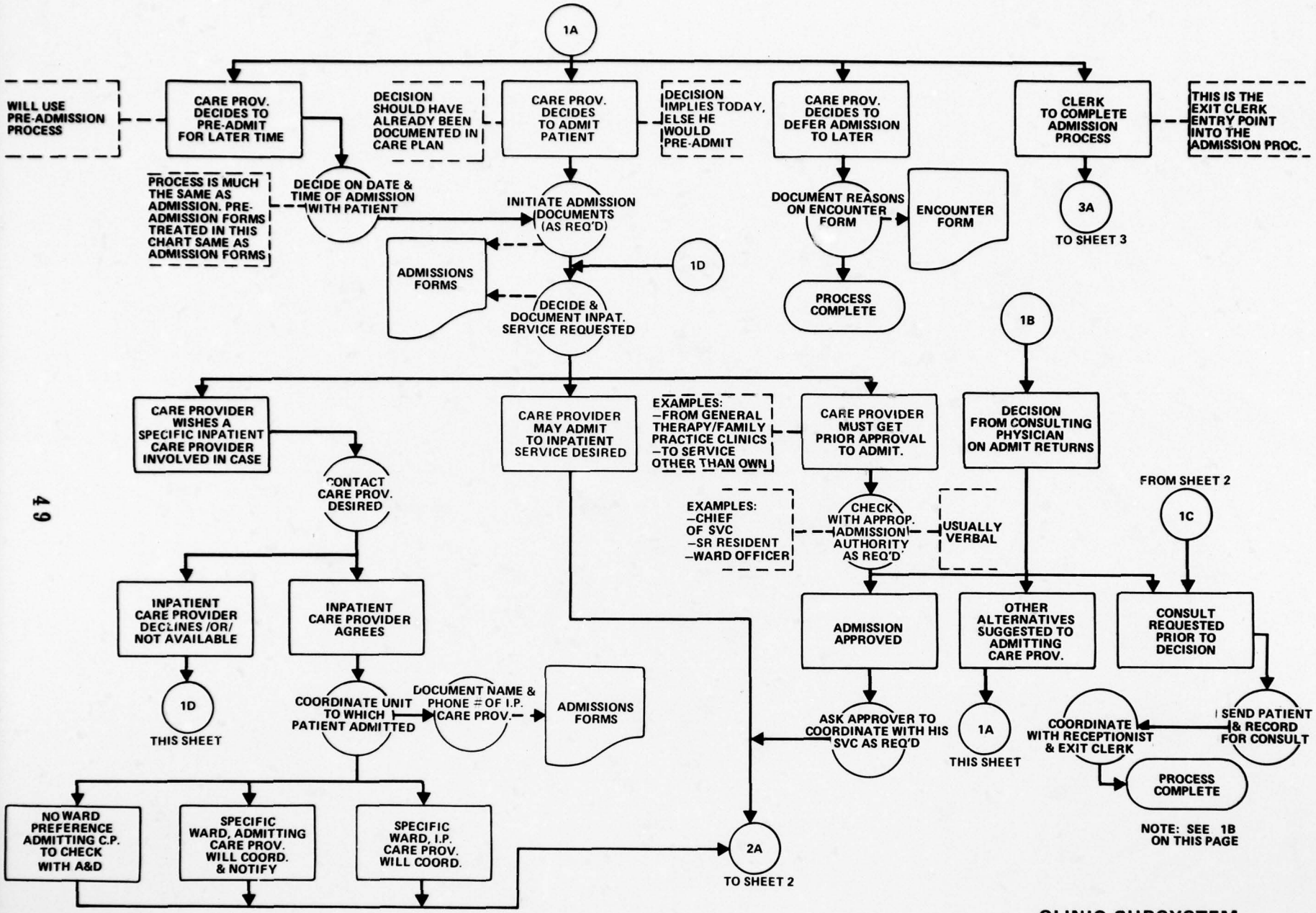


CLINIC SUBSYSTEM
CLINIC REVIEW PROCESS
SHEET 6 OF 6 18 DEC 1975

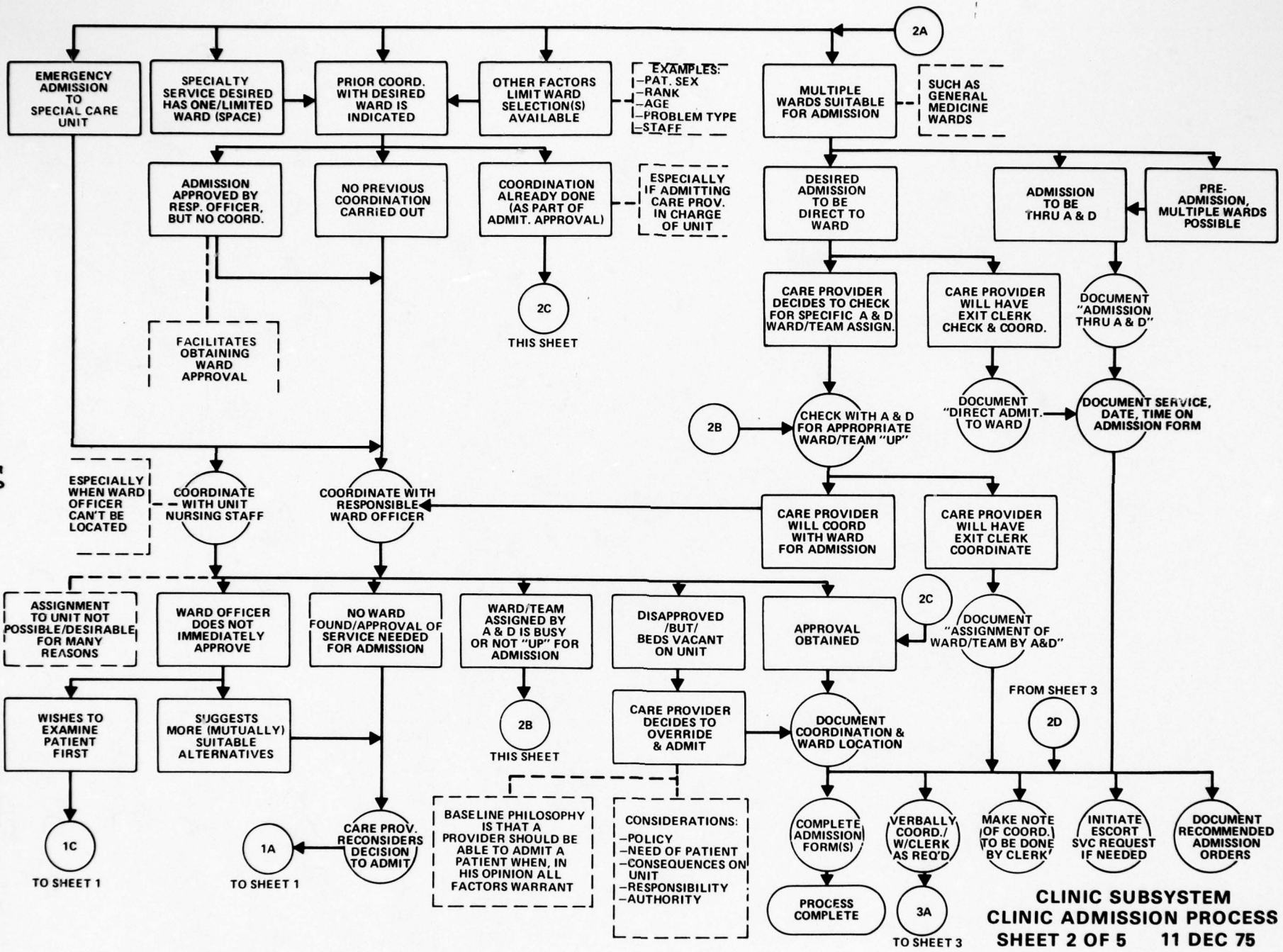


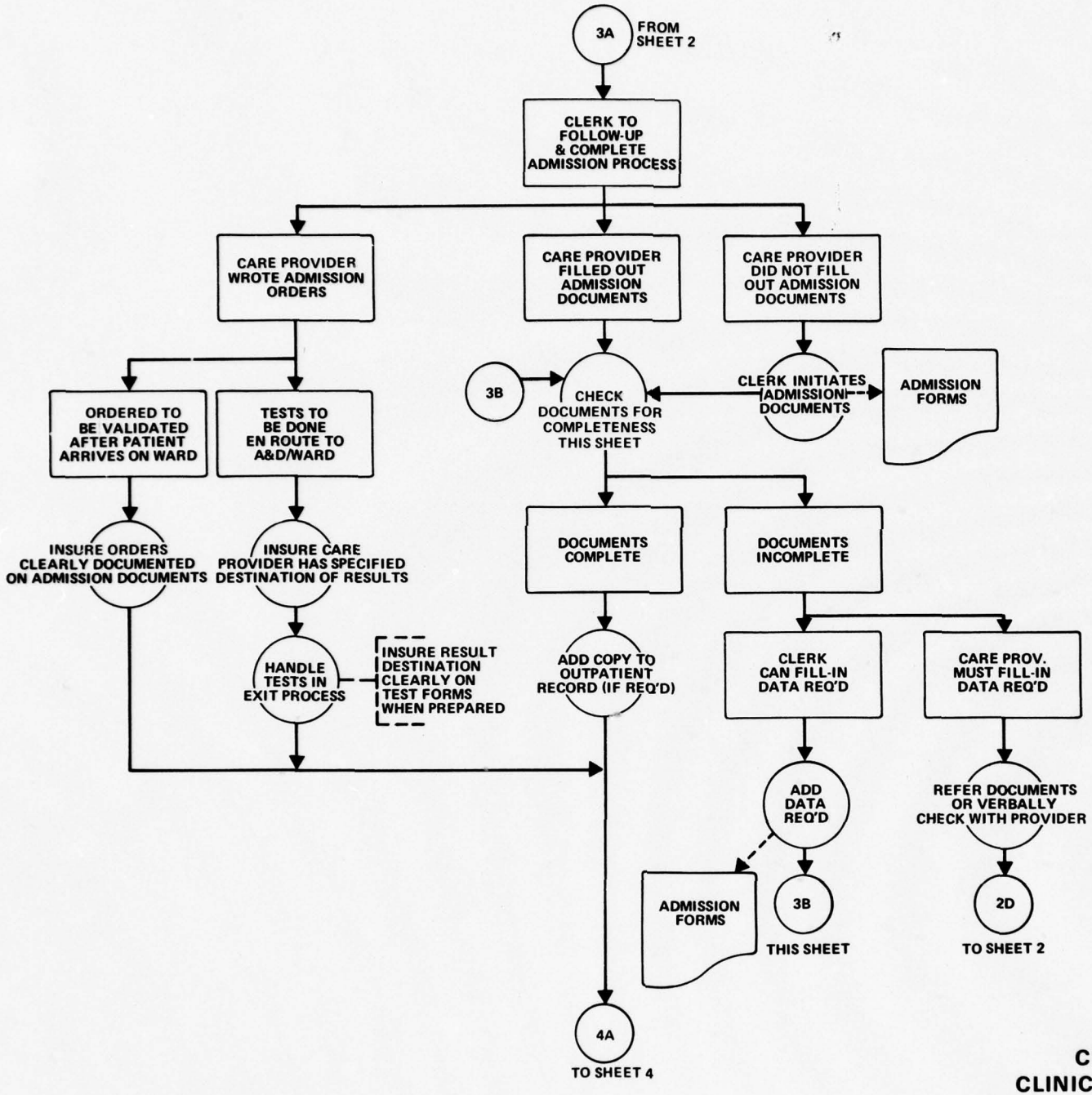
NOTE 1.1: TRIAGER IN DENTAL FACILITY IS REQUIRED TO BE A DENTAL EXAMINING OFFICER, AS OPPOSED TO THE PARAMEDICAL PERSONNEL USE IN OTHER CLINICS.

CLINIC SUBSYSTEM
CLINIC TRIAGE PROCESS
SHEET 1 OF 1 11 DEC 75

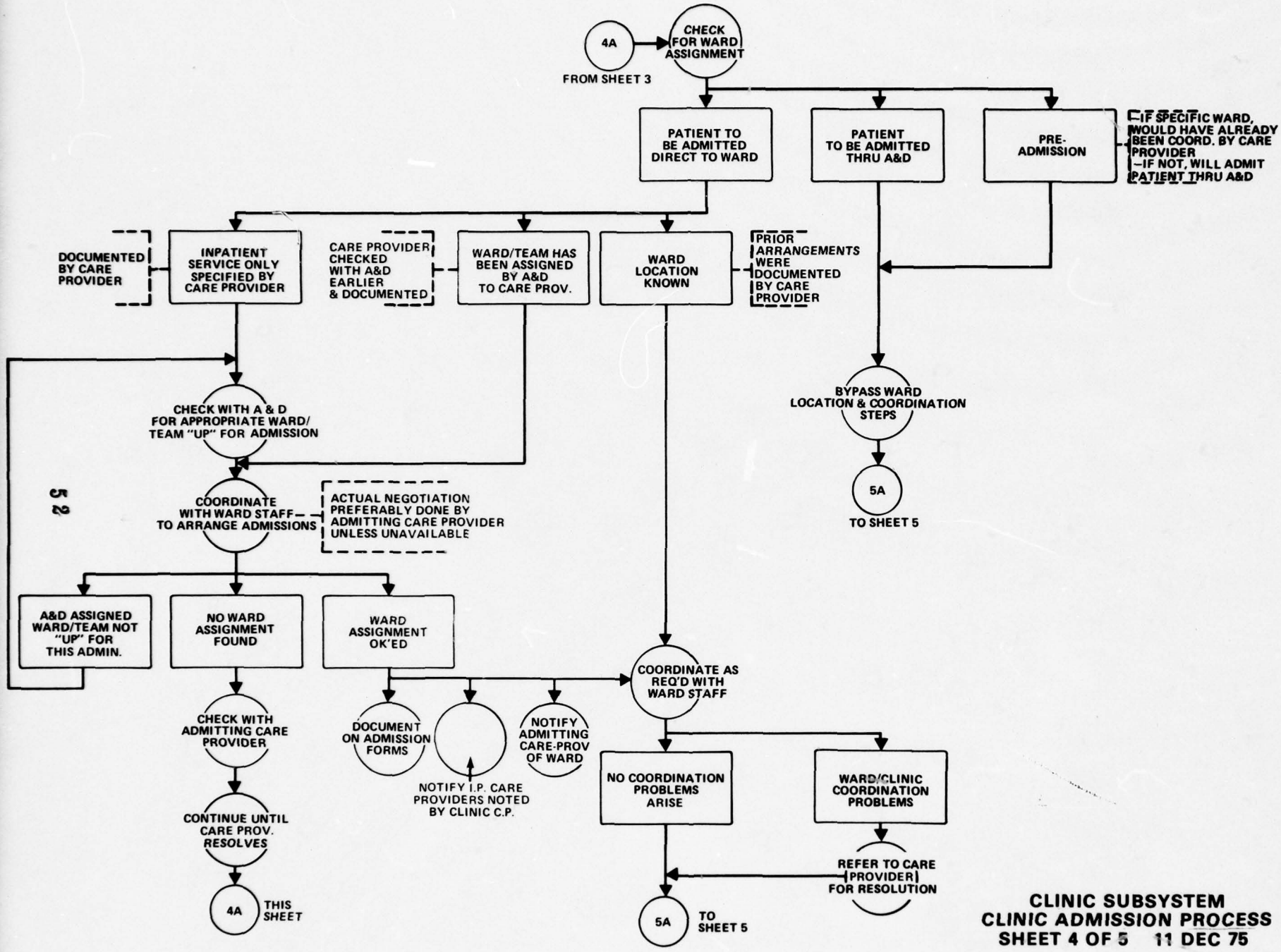


CLINIC SUBSYSTEM
CLINIC ADMISSION PROCESSING
SHEET 1 OF 5 11 DEC 75

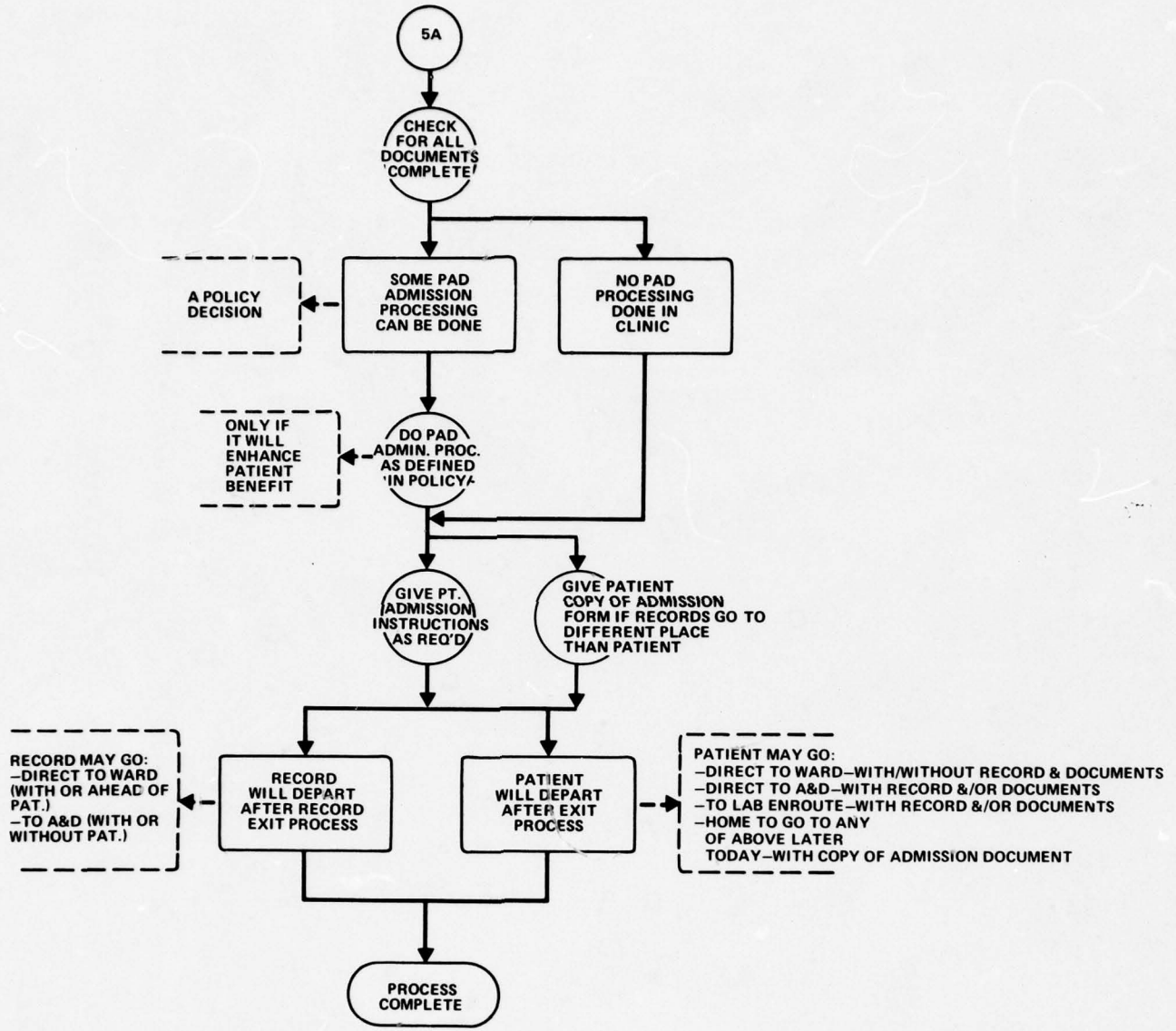

2A
EMERGENCY ADMISSION TO SPECIAL CARE UNIT
SPECIALTY SERVICE DESIRED HAS ONE/LIMITED WARD (SPACE)
PRIOR COORD. WITH DESIRED WARD IS INDICATED
OTHER FACTORS LIMIT WARD SELECTION(S) AVAILABLE
EXAMPLES:
–PAT. SEX
–RANK
–AGE
–PROBLEM TYPE
–STAFF
MULTIPLE WARDS SUITABLE FOR ADMISSION
SUCH AS GENERAL MEDICINE WARDS
ADMISSION APPROVED BY RESP. OFFICER, BUT NO COORD.
NO PREVIOUS COORDINATION CARRIED OUT
COORDINATION ALREADY DONE (AS PART OF ADMIT. APPROVAL)
ESPECIALLY IF ADMITTING CARE PROV. IN CHARGE OF UNIT
DESIRED ADMISSION TO BE DIRECT TO WARD
ADMISSION TO BE THRU A & D
PRE-ADMISSION, MULTIPLE WARDS POSSIBLE
2C
THIS SHEET
FACILITATES OBTAINING WARD APPROVAL
CARE PROVIDER DECIDES TO CHECK FOR SPECIFIC A & D WARD/TEAM ASSIGN.
CARE PROVIDER WILL HAVE EXIT CLERK CHECK & COORD.
DOCUMENT "ADMISSION THRU A & D"
2B
CHECK WITH A & D FOR APPROPRIATE WARD/TEAM "UP"
DOCUMENT "DIRECT ADMIT. TO WARD
DOCUMENT SERVICE, DATE, TIME ON ADMISSION FORM
ESPECIALLY WHEN WARD OFFICER CAN'T BE LOCATED
COORDINATE WITH UNIT NURSING STAFF
COORDINATE WITH RESPONSIBLE WARD OFFICER
CARE PROVIDER WILL COORD WITH WARD FOR ADMISSION
CARE PROVIDER WILL HAVE EXIT CLERK COORDINATE
ASSIGNMENT TO UNIT NOT POSSIBLE/DESIRABLE FOR MANY REASONS
WARD OFFICER DOES NOT IMMEDIATELY APPROVE
NO WARD FOUND/APPROVAL OF SERVICE NEEDED FOR ADMISSION
WARD/TEAM ASSIGNED BY A & D IS BUSY OR NOT "UP" FOR ADMISSION
DISAPPROVED /BUT/ BEDS VACANT ON UNIT
APPROVAL OBTAINED
2C
DOCUMENT "ASSIGNMENT OF WARD/TEAM BY A&D"
FROM SHEET 3
2D
WISHES TO EXAMINE PATIENT FIRST
SUGGESTS MORE (MUTUALLY) SUITABLE ALTERNATIVES
2B
THIS SHEET
CARE PROVIDER DECIDES TO OVERRIDE & ADMIT
DOCUMENT COORDINATION & WARD LOCATION
1C
TO SHEET 1
1A
TO SHEET 1
CARE PROV. RECONSIDERS DECISION TO ADMIT
BASELINE PHILOSOPHY IS THAT A PROVIDER SHOULD BE ABLE TO ADMIT A PATIENT WHEN, IN HIS OPINION ALL FACTORS WARRANT
CONSIDERATIONS:
–POLICY
–NEED OF PATIENT
–CONSEQUENCES ON UNIT
–RESPONSIBILITY
–AUTHORITY
COMPLETE ADMISSION FORM(S)
VERBALLY COORD./ W/CLERK AS REQ'D
MAKE NOTE OF COORD. TO BE DONE BY CLERK
INITIATE ESCORT SVC REQUEST IF NEEDED
DOCUMENT RECOMMENDED ADMISSION ORDERS
PROCESS COMPLETE
3A
TO SHEET 3
CLINIC SUBSYSTEM
CLINIC ADMISSION PROCESS
SHEET 2 OF 5 11 DEC 75



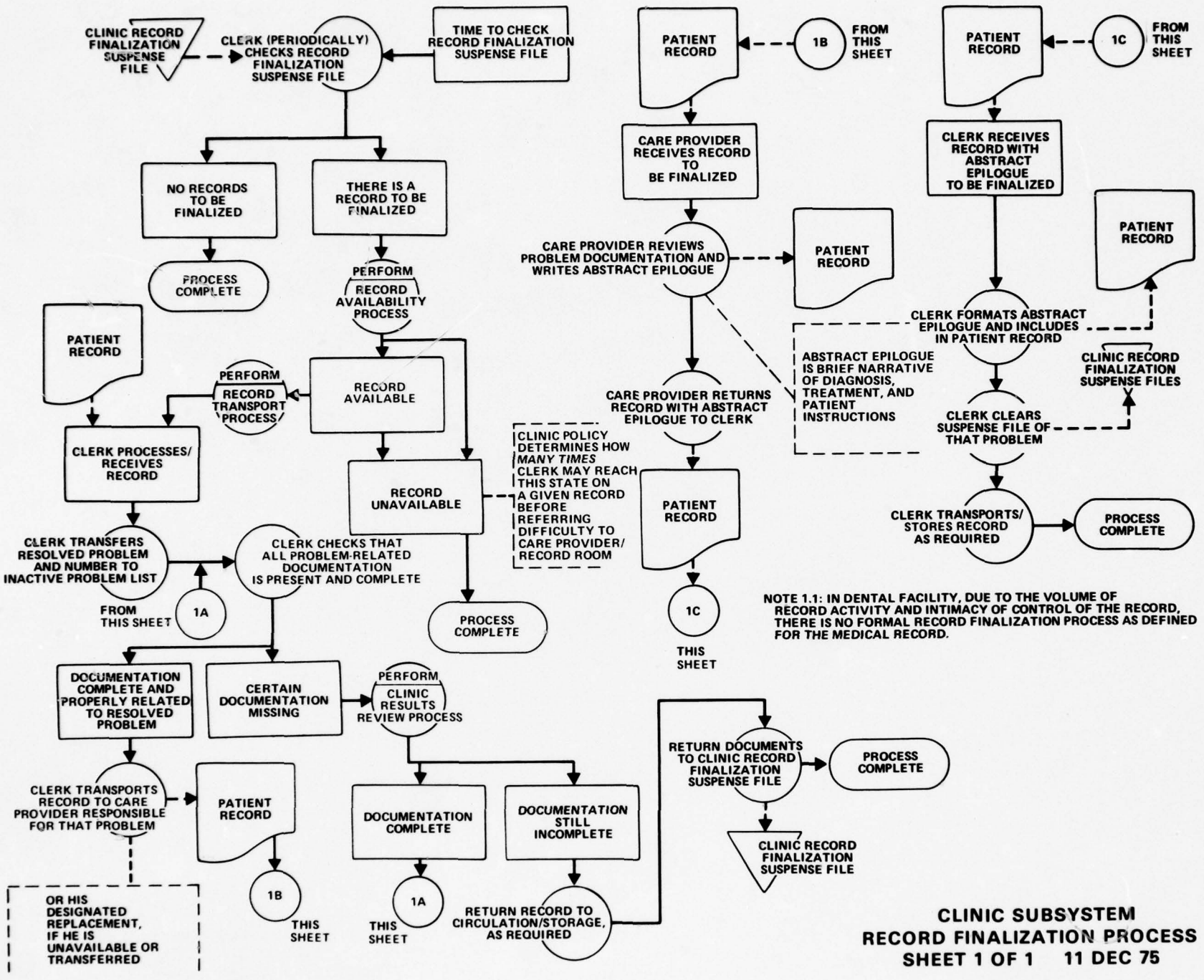
CLINIC SUBSYSTEM
CLINIC ADMISSION PROCESS
SHEET 3 OF 5 11 DEC 75



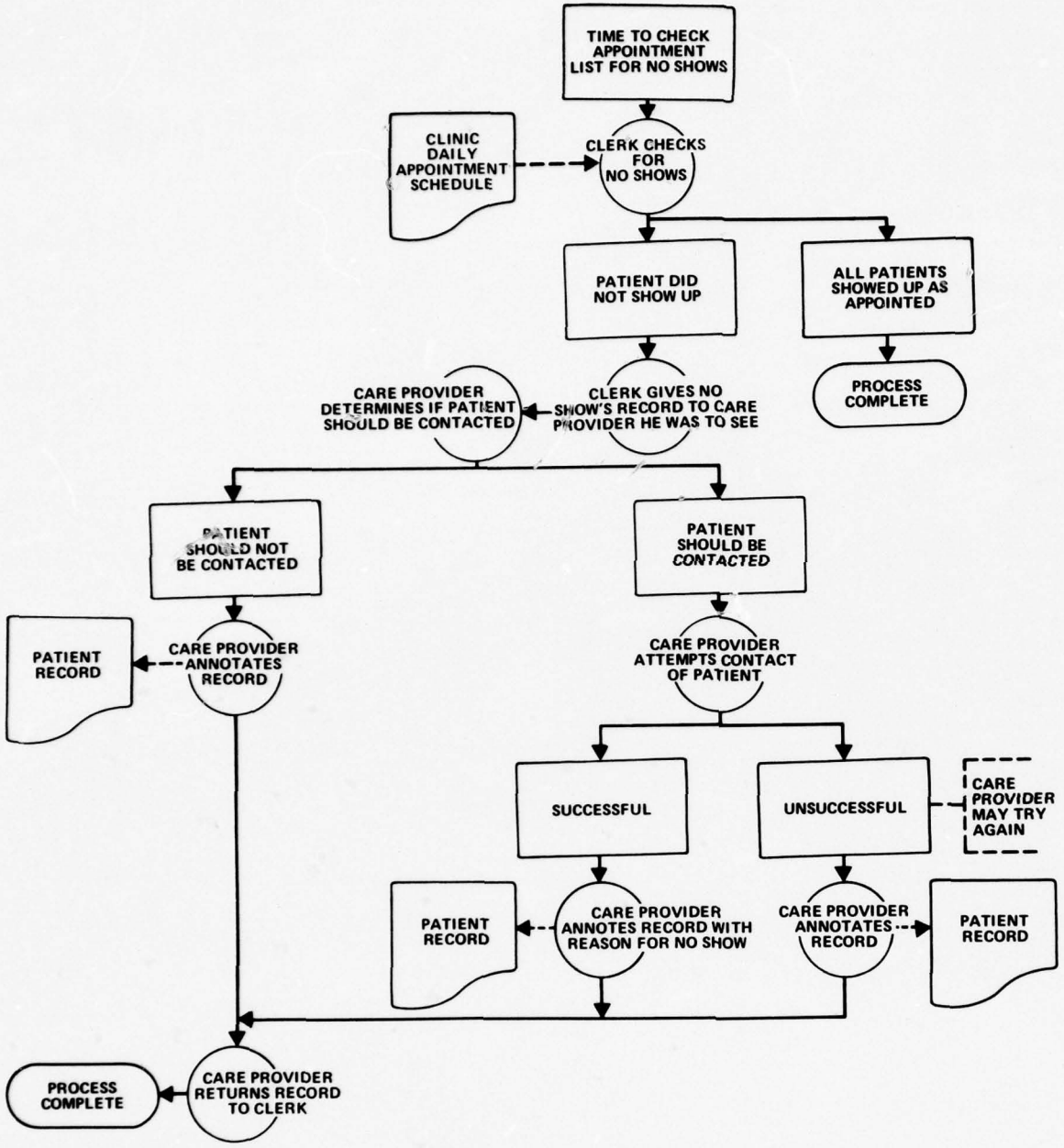
CLINIC SUBSYSTEM
CLINIC ADMISSION PROCESS
SHEET 4 OF 5 11 DEC 75



CLINIC SUBSYSTEM
CLINIC ADMISSION PROCESS
SHEET 5 OF 5 11 DEC 75

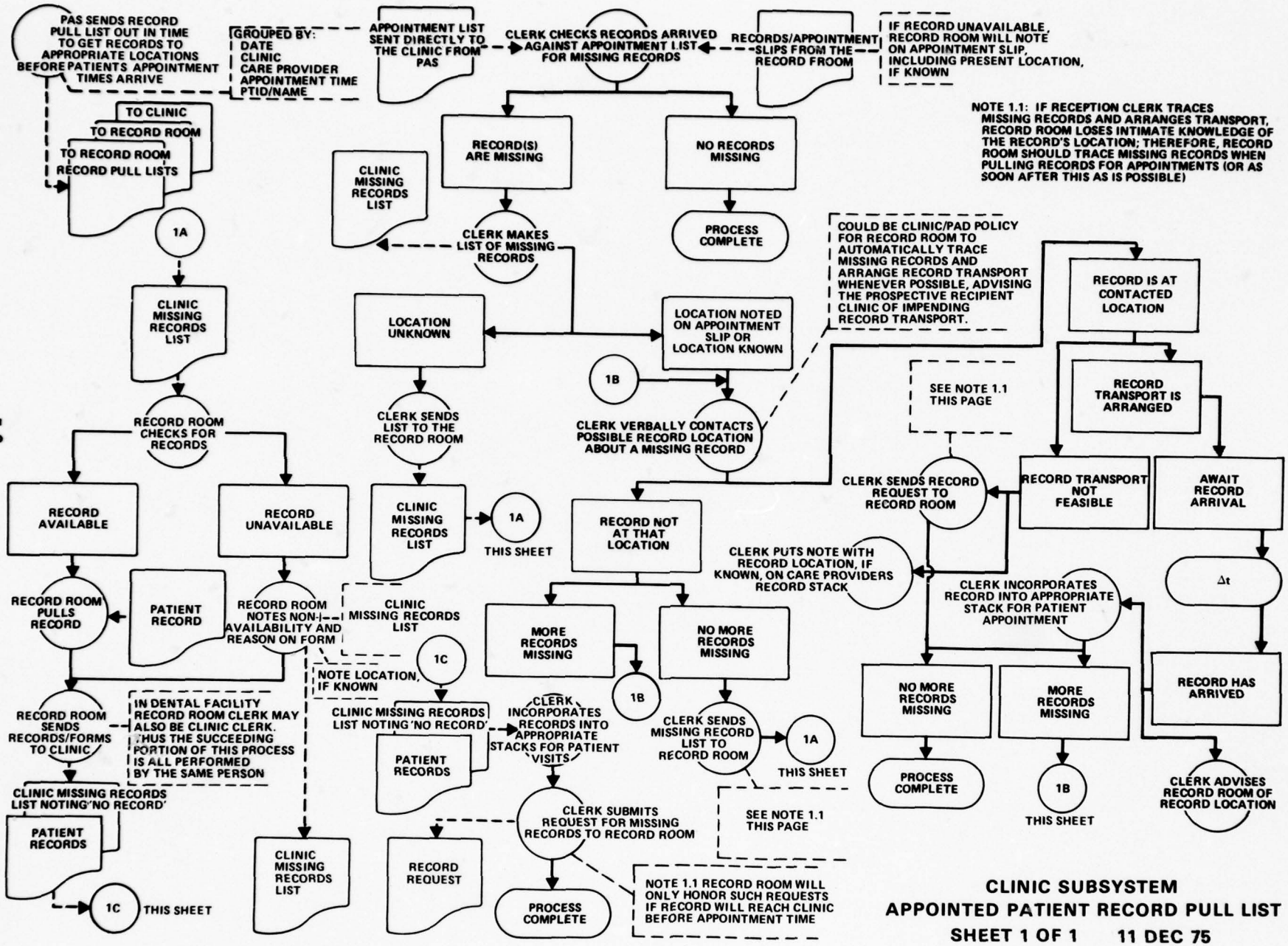


CLINIC SUBSYSTEM
RECORD FINALIZATION PROCESS
SHEET 1 OF 1 11 DEC 75

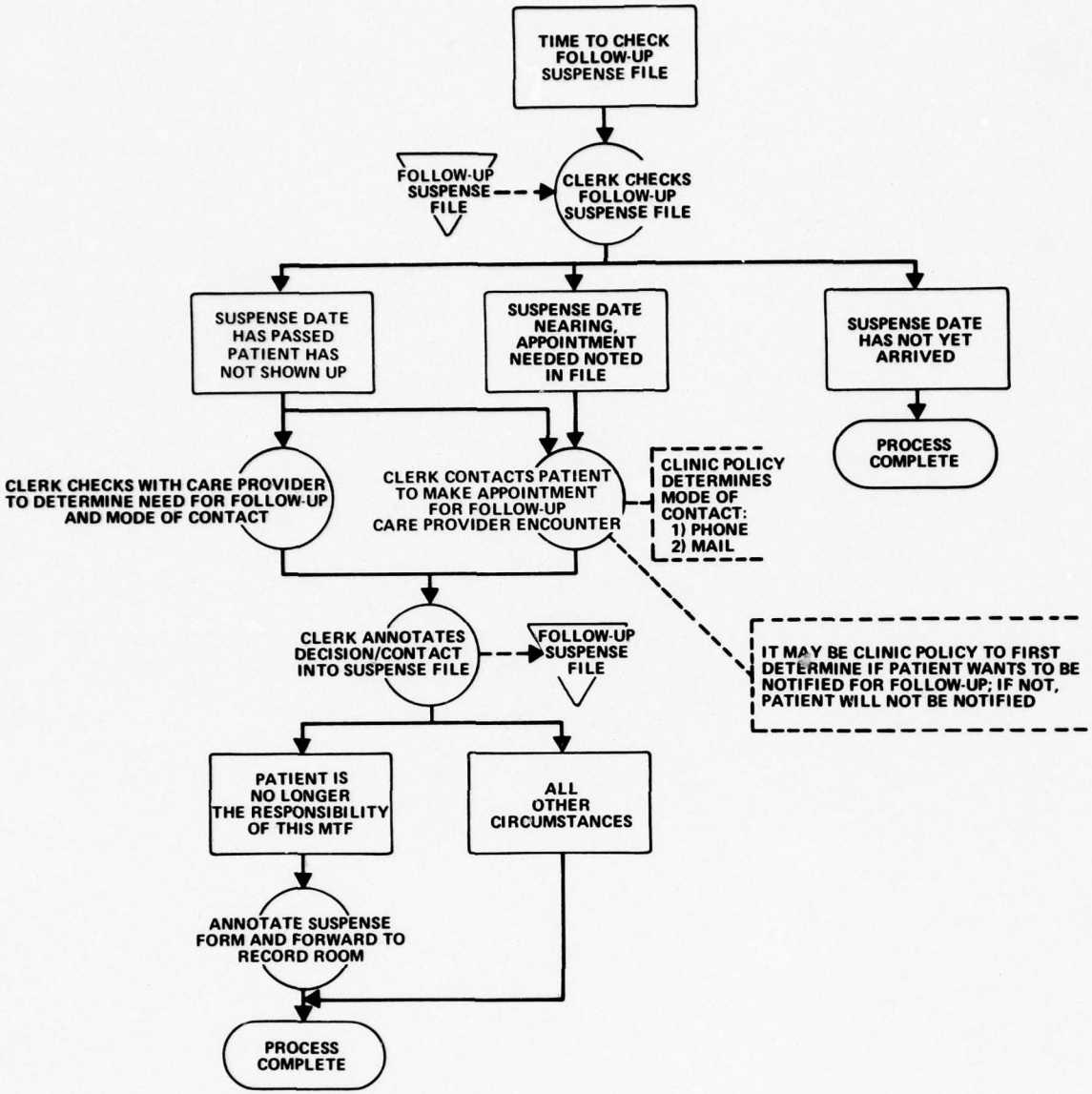


NOTE 1.1: THIS PROCEDURE IS TO BE FOLLOWED FOR EACH AND ALL NO-SHOW PATIENTS.
NOTE 1.2: THE NO-SHOW PROCESS IS NORMALLY EXECUTED AT THE END OF THE CLINIC DAY.

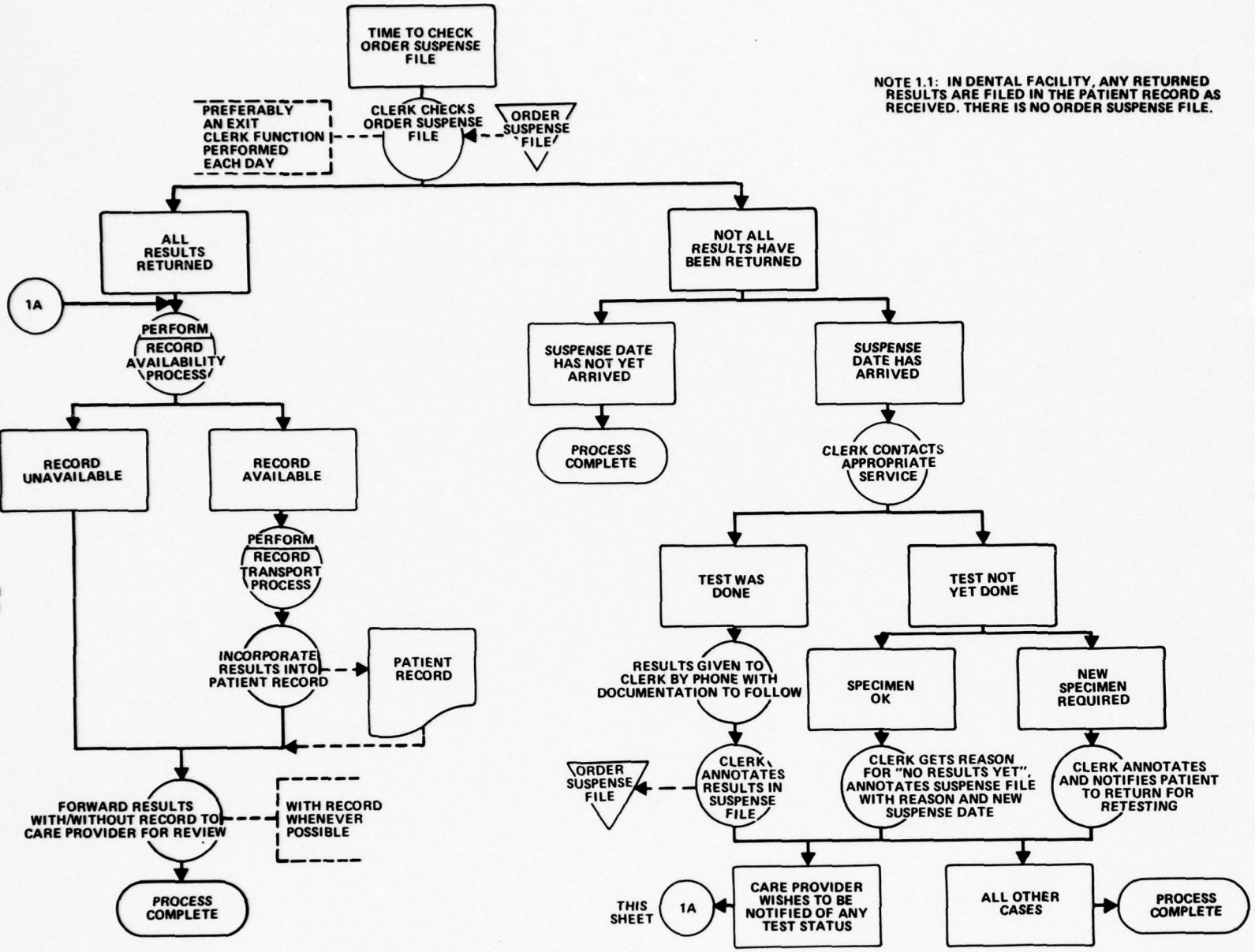
CLINIC SUBSYSTEM
NO SHOWS PROCESS
SHEET 1 OF 1 11 DEC 75



CLINIC SUBSYSTEM
APPOINTED PATIENT RECORD PULL LIST
SHEET 1 OF 1 11 DEC 75

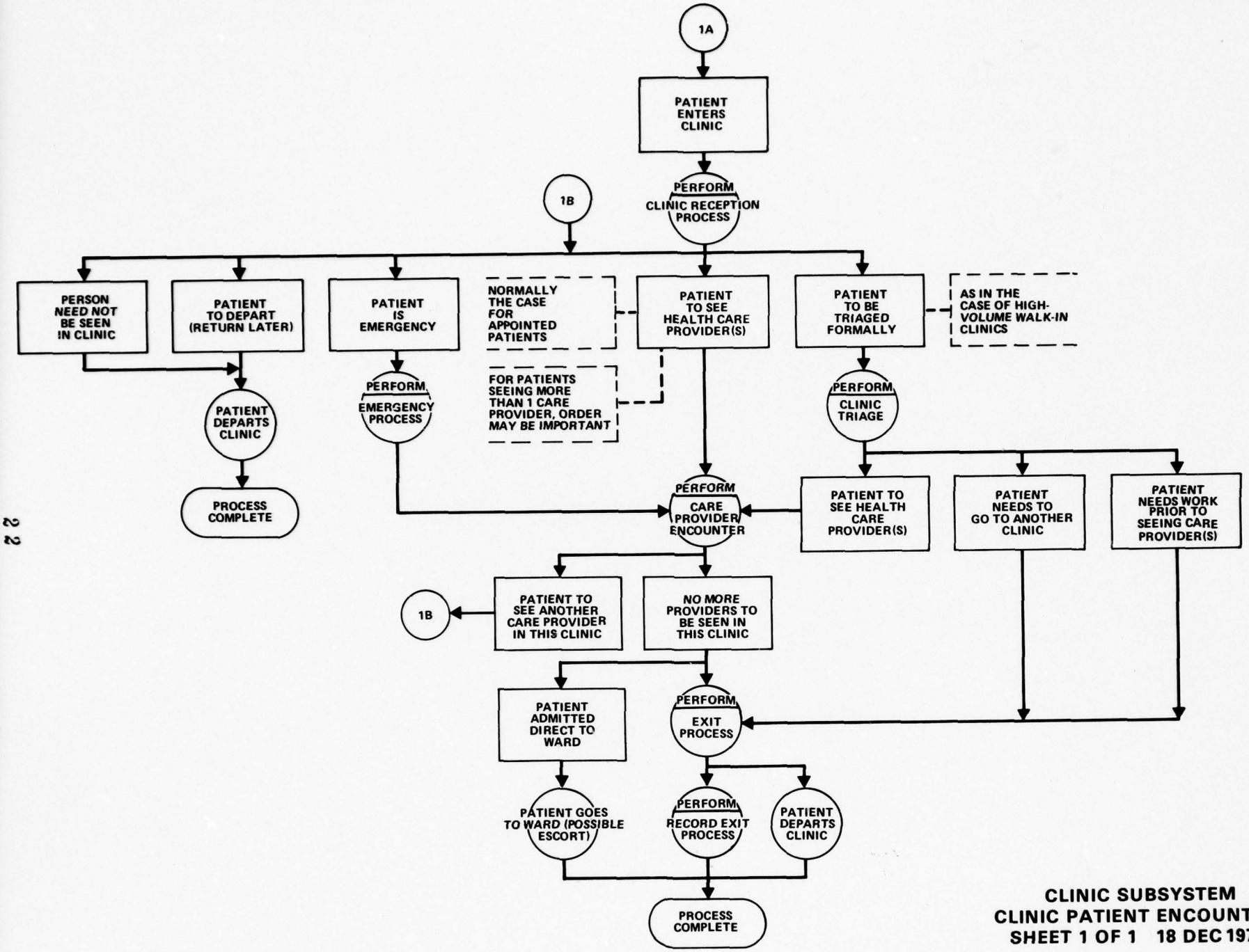


CLINIC SUBSYSTEM
PATIENT FOLLOW- UP PROCESS
SHEET 1 OF 1 11 DEC 75



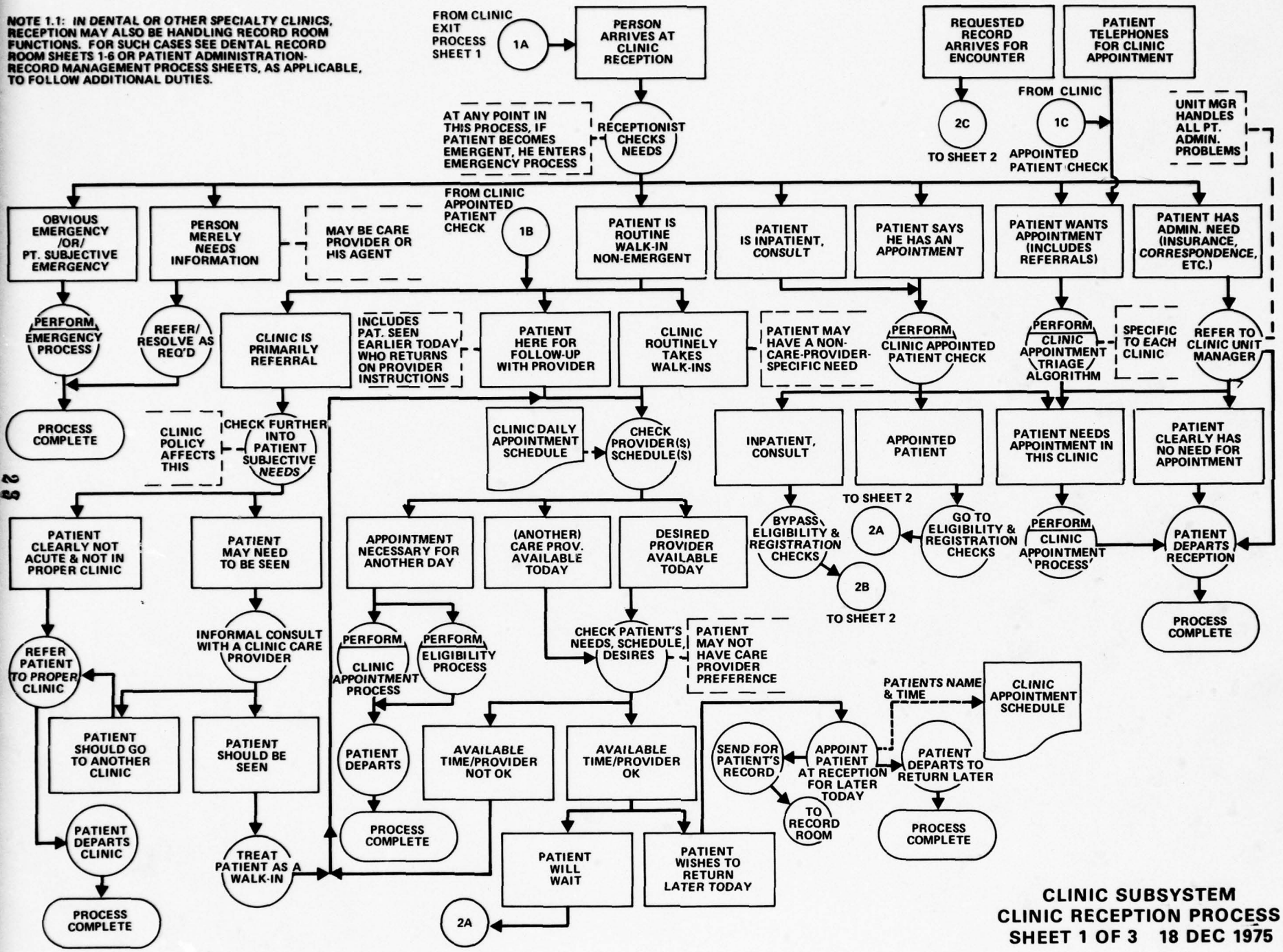
NOTE 1.1: IN DENTAL FACILITY, ANY RETURNED RESULTS ARE FILED IN THE PATIENT RECORD AS RECEIVED. THERE IS NO ORDER SUSPENSE FILE.

CLINIC SUBSYSTEM
ORDER SUSPENSE CHECK PROCESS
SHEET 1 OF 1 11 DEC 75

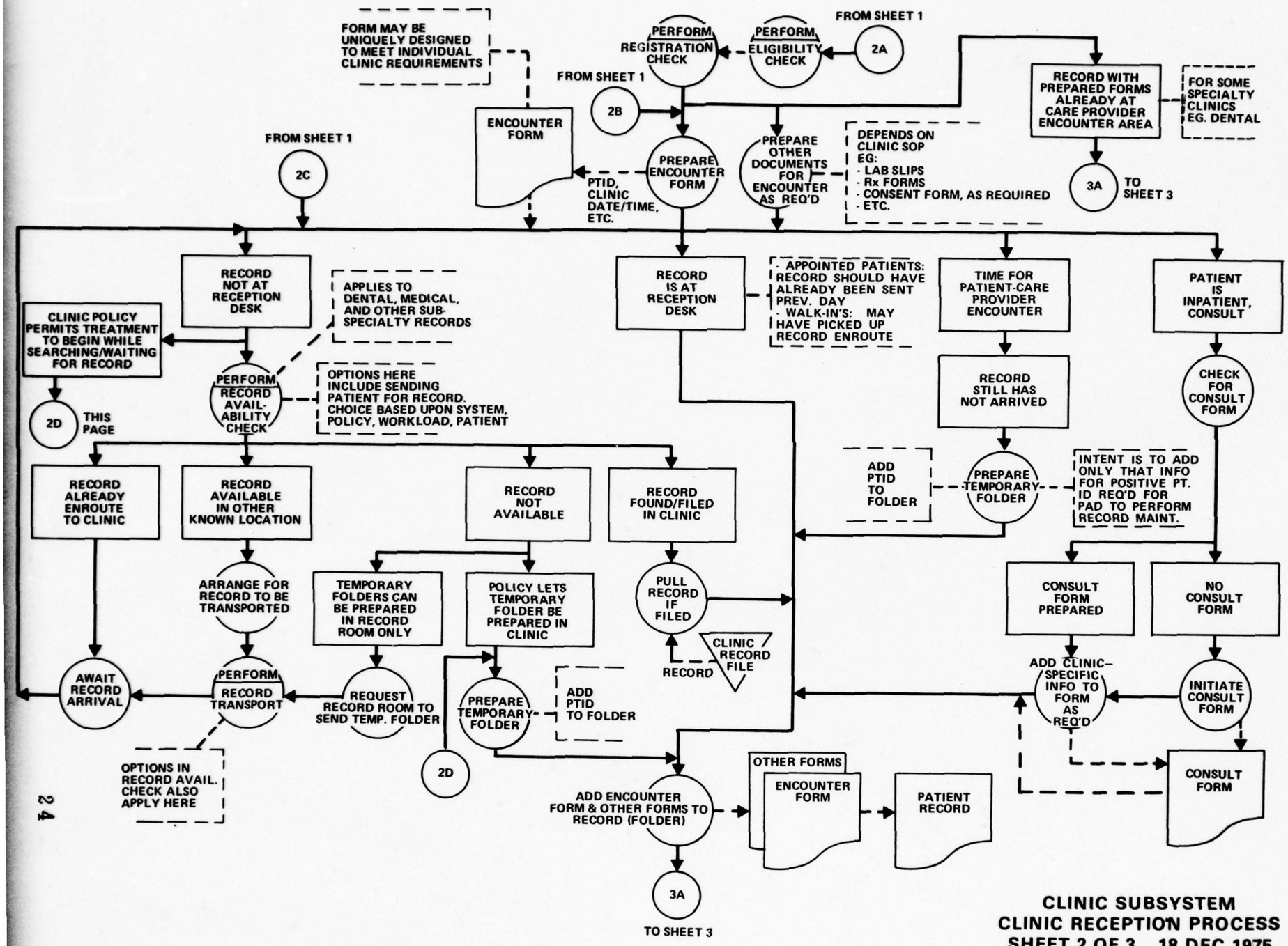


CLINIC SUBSYSTEM
CLINIC PATIENT ENCOUNTER
SHEET 1 OF 1 18 DEC 1975

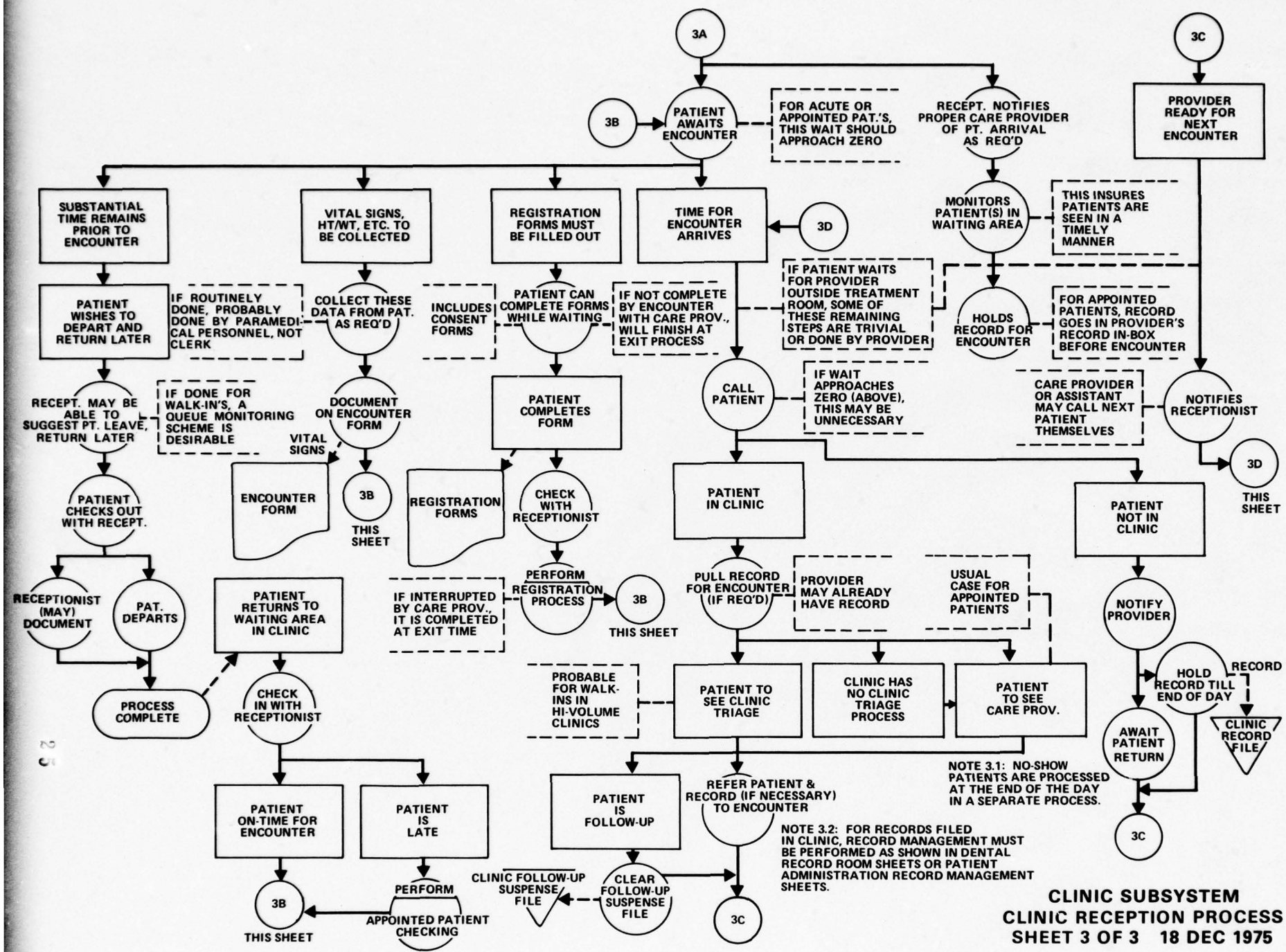
NOTE 1.1: IN DENTAL OR OTHER SPECIALTY CLINICS, RECEPTION MAY ALSO BE HANDLING RECORD ROOM FUNCTIONS. FOR SUCH CASES SEE DENTAL RECORD ROOM SHEETS 1-6 OR PATIENT ADMINISTRATION-RECORD MANAGEMENT PROCESS SHEETS, AS APPLICABLE, TO FOLLOW ADDITIONAL DUTIES.



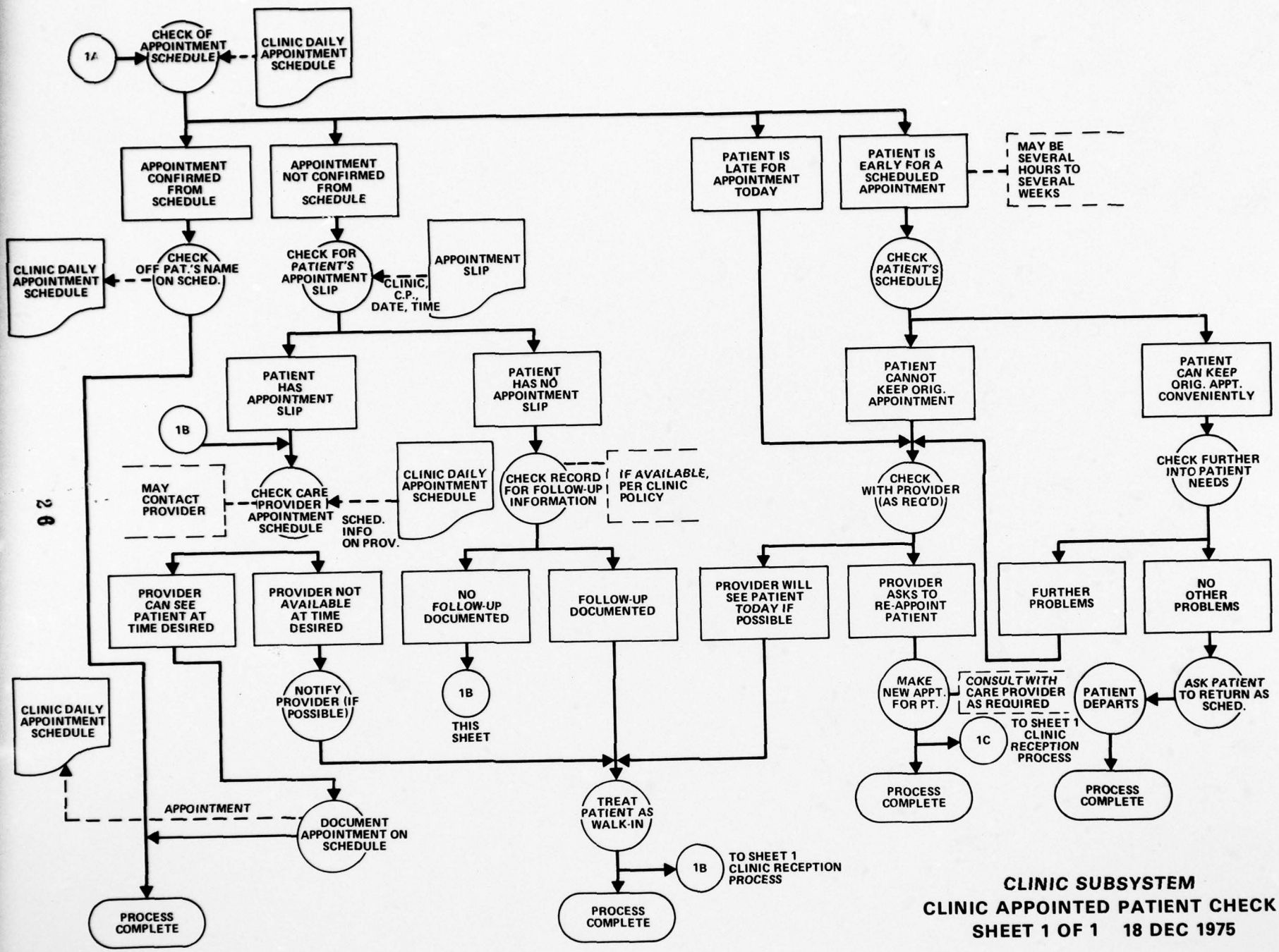
CLINIC SUBSYSTEM
CLINIC RECEPTION PROCESS
SHEET 1 OF 3 18 DEC 1975

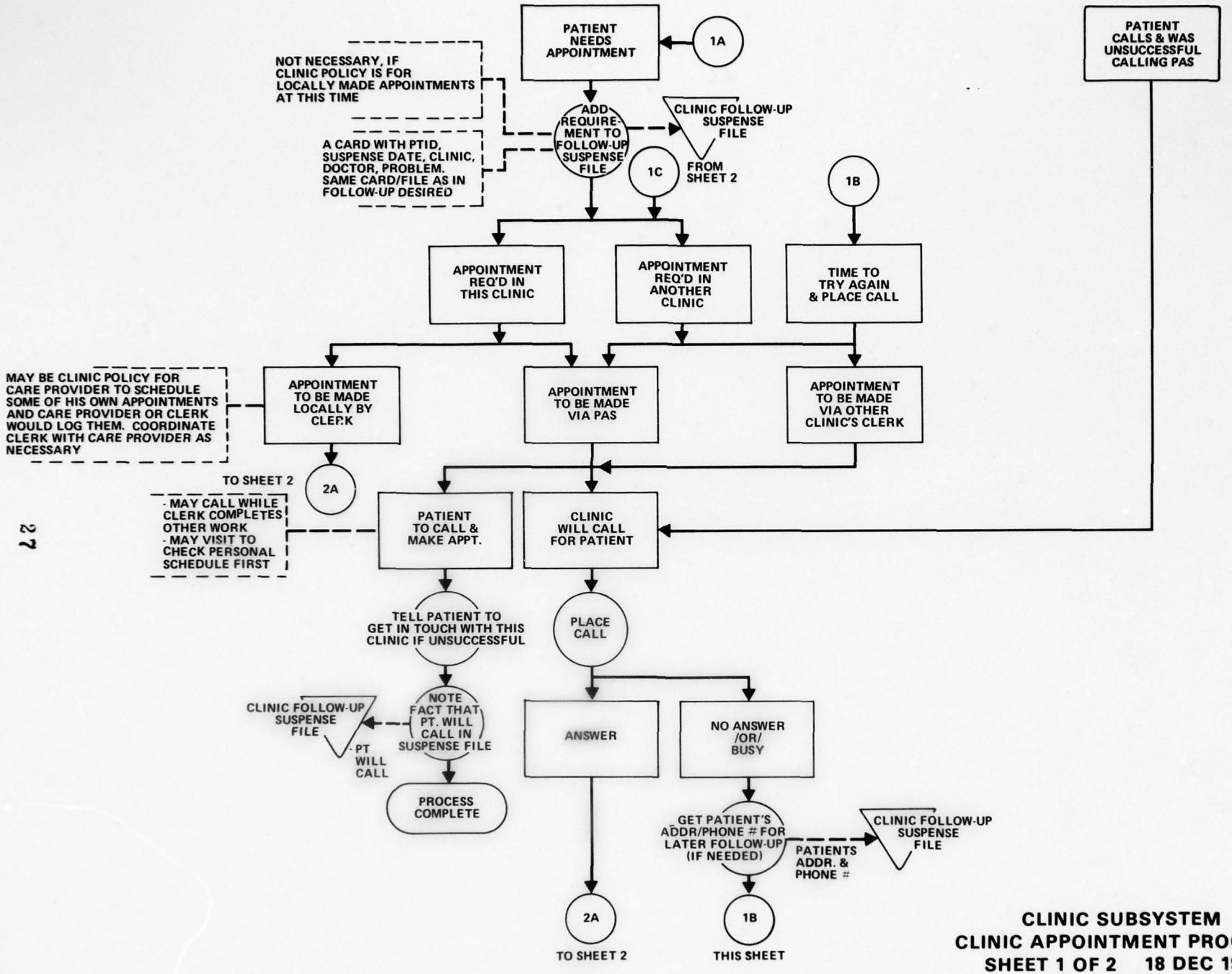


CLINIC SUBSYSTEM
CLINIC RECEPTION PROCESS
SHEET 2 OF 3 18 DEC 1975

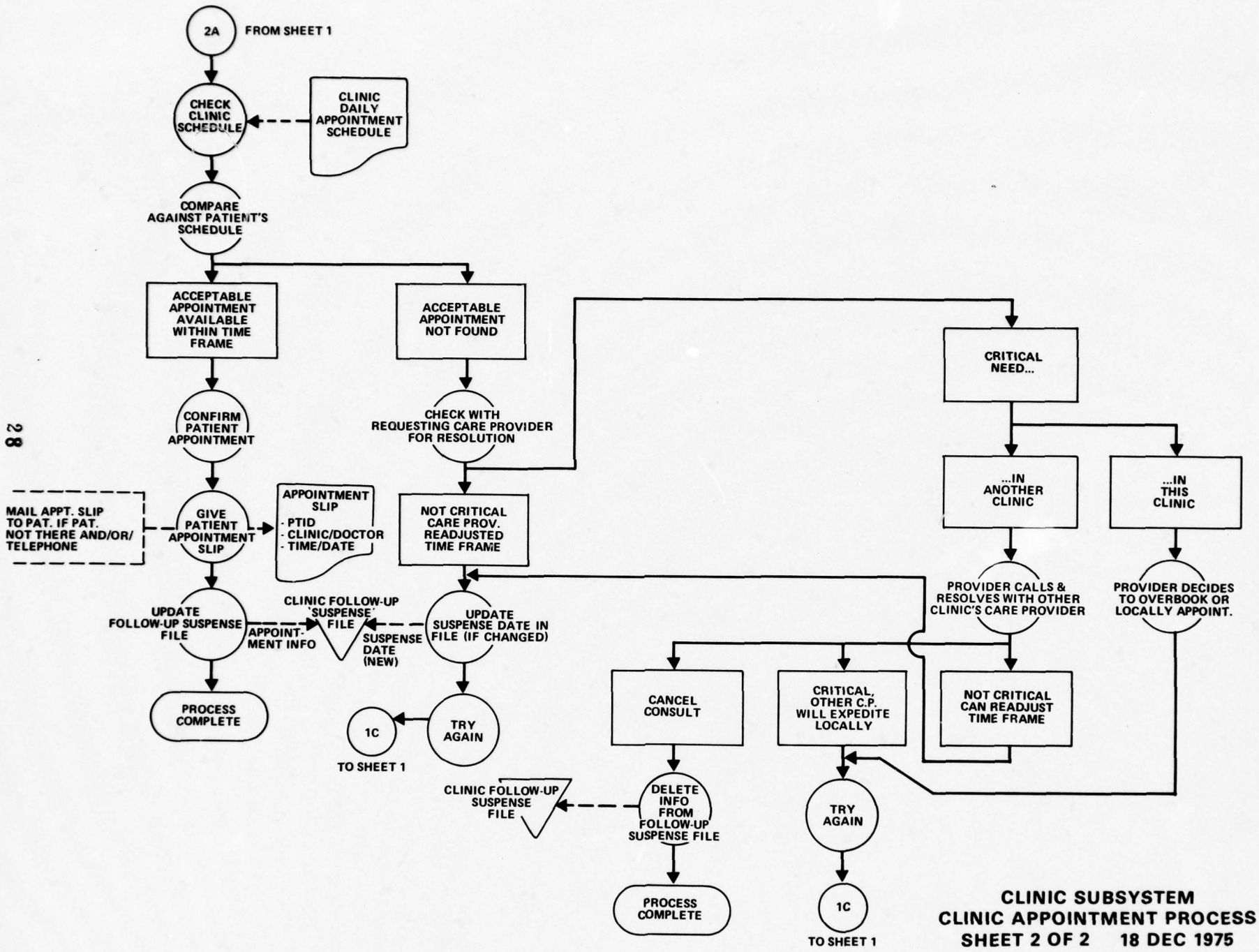


CLINIC SUBSYSTEM
CLINIC RECEPTION PROCESS
SHEET 3 OF 3 18 DEC 1975

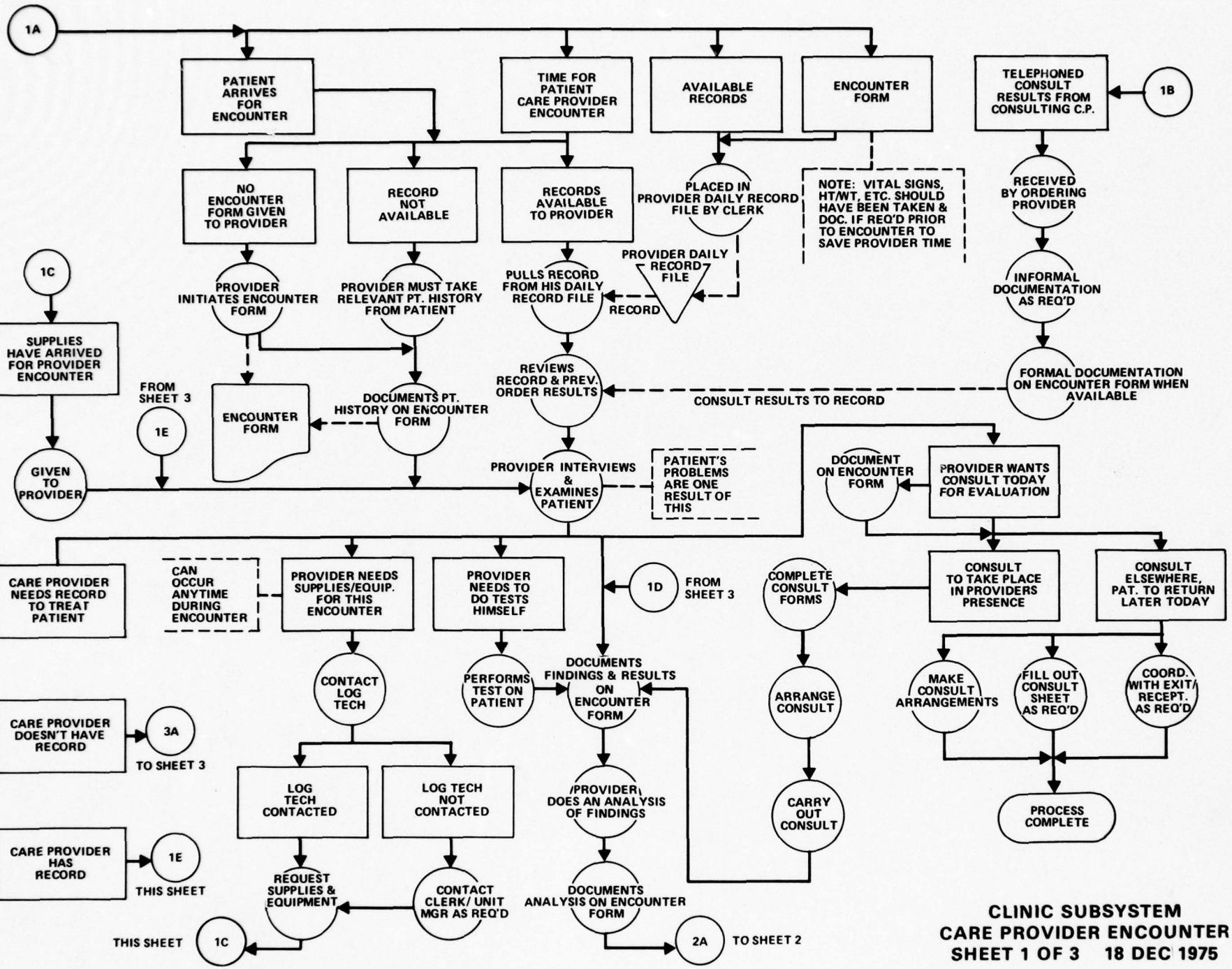

1A
CHECK OF APPOINTMENT SCHEDULE
CLINIC DAILY APPOINTMENT SCHEDULE
APPOINTMENT CONFIRMED FROM SCHEDULE
APPOINTMENT NOT CONFIRMED FROM SCHEDULE
PATIENT IS LATE FOR APPOINTMENT TODAY
PATIENT IS EARLY FOR A SCHEDULED APPOINTMENT
MAY BE SEVERAL HOURS TO SEVERAL WEEKS
CLINIC DAILY APPOINTMENT SCHEDULE
CHECK OFF PAT.'S NAME ON SCHED.
CHECK FOR PATIENT'S APPOINTMENT SLIP
CLINIC, C.P., DATE, TIME
APPOINTMENT SLIP
CHECK PATIENT'S SCHEDULE
PATIENT HAS APPOINTMENT SLIP
PATIENT HAS NO APPOINTMENT SLIP
PATIENT CANNOT KEEP ORIG. APPOINTMENT
PATIENT CAN KEEP ORIG. APPT. CONVENIENTLY
1B
MAY CONTACT PROVIDER
CHECK CARE PROVIDER APPOINTMENT SCHEDULE
SCHED. INFO ON PROV.
CLINIC DAILY APPOINTMENT SCHEDULE
CHECK RECORD FOR FOLLOW-UP INFORMATION
IF AVAILABLE, PER CLINIC POLICY
CHECK WITH PROVIDER (AS REQ'D)
CHECK FURTHER INTO PATIENT NEEDS
PROVIDER CAN SEE PATIENT AT TIME DESIRED
PROVIDER NOT AVAILABLE AT TIME DESIRED
NO FOLLOW-UP DOCUMENTED
FOLLOW-UP DOCUMENTED
PROVIDER WILL SEE PATIENT TODAY IF POSSIBLE
PROVIDER ASKS TO RE-APPOINT PATIENT
FURTHER PROBLEMS
NO OTHER PROBLEMS
CLINIC DAILY APPOINTMENT SCHEDULE
NOTIFY PROVIDER (IF POSSIBLE)
1B
THIS SHEET
MAKE NEW APPT. FOR PT.
CONSULT WITH CARE PROVIDER AS REQUIRED
PATIENT DEPARTS
ASK PATIENT TO RETURN AS SCHED.
1C
TO SHEET 1 CLINIC RECEPTION PROCESS
APPOINTMENT
DOCUMENT APPOINTMENT ON SCHEDULE
TREAT PATIENT AS WALK-IN
PROCESS COMPLETE
PROCESS COMPLETE
PROCESS COMPLETE
1B
TO SHEET 1 CLINIC RECEPTION PROCESS
CLINIC SUBSYSTEM
CLINIC APPOINTED PATIENT CHECK
SHEET 1 OF 1 18 DEC 1975



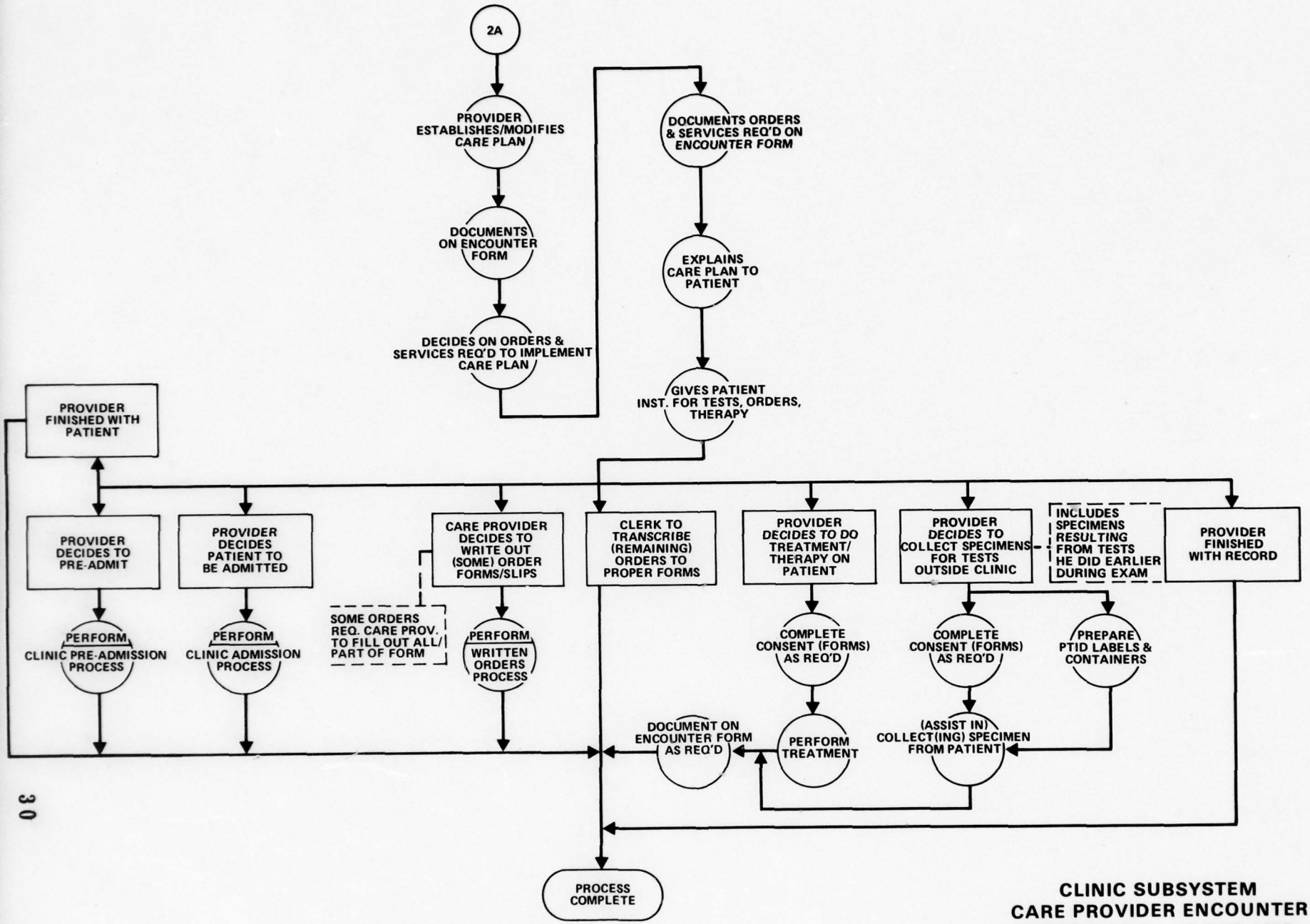
CLINIC SUBSYSTEM
CLINIC APPOINTMENT PROCESS
SHEET 1 OF 2 18 DEC 1975



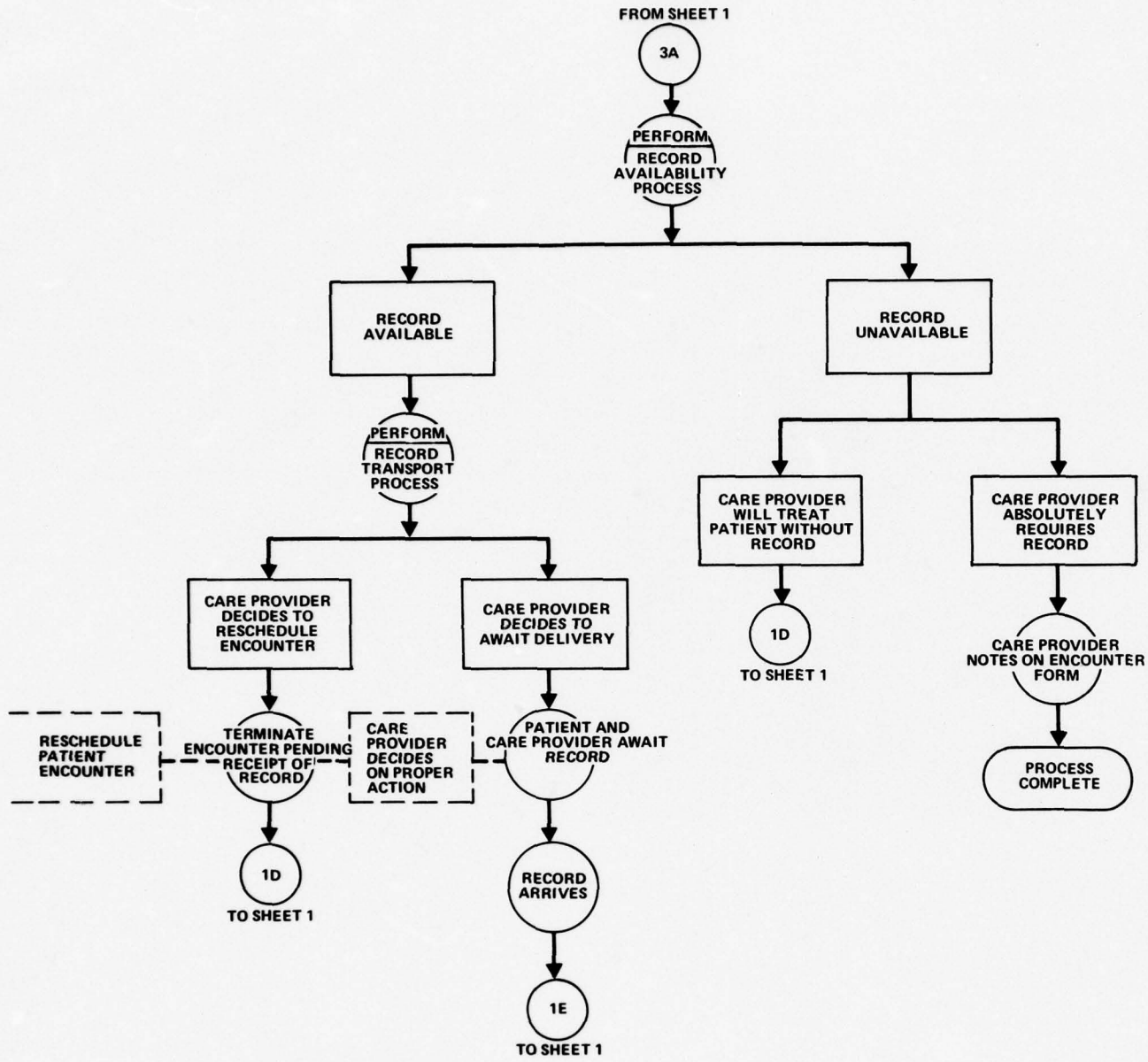
CLINIC SUBSYSTEM
CLINIC APPOINTMENT PROCESS
SHEET 2 OF 2 18 DEC 1975



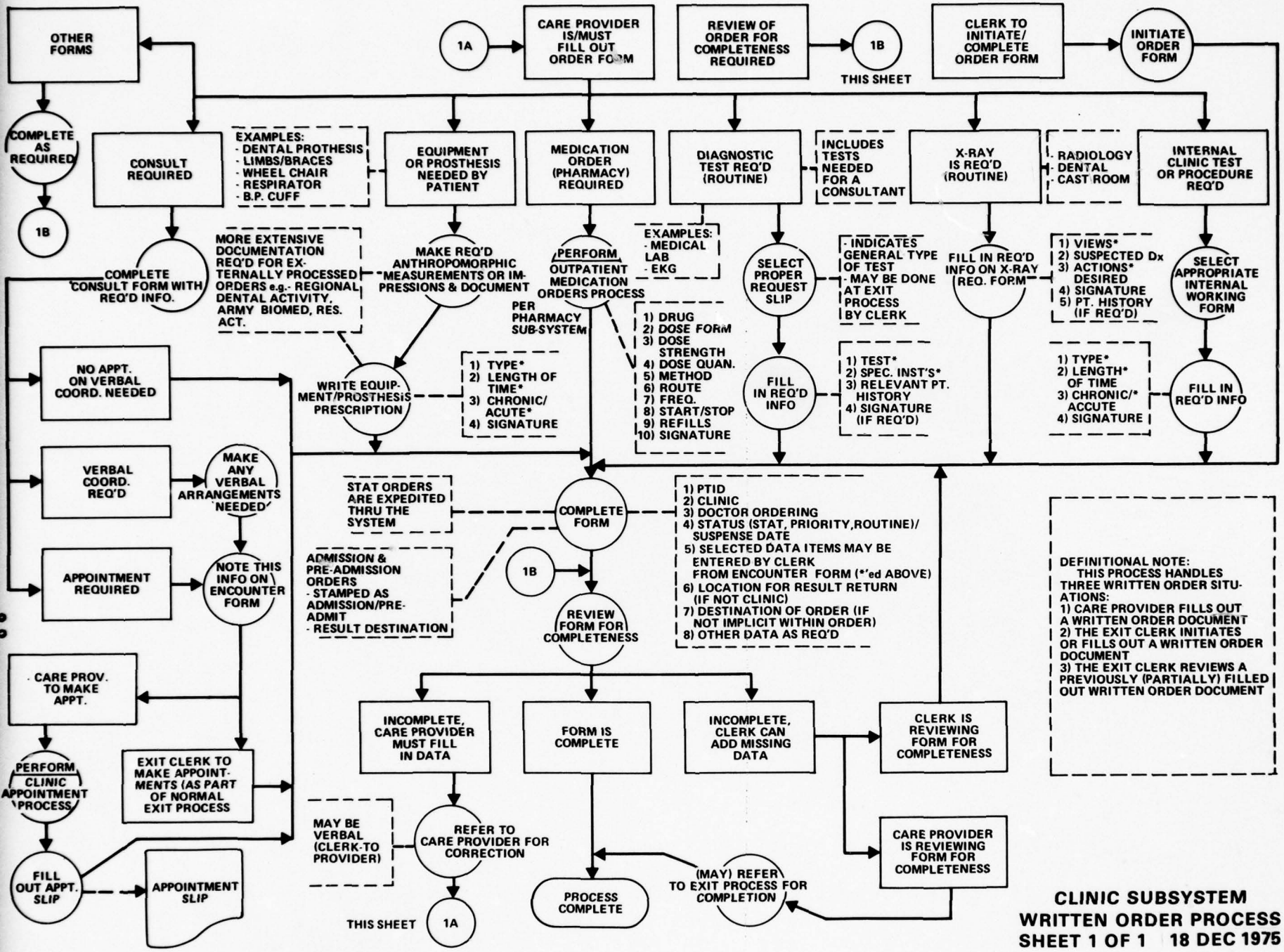
CLINIC SUBSYSTEM
CARE PROVIDER ENCOUNTER
SHEET 1 OF 3 18 DEC 1975

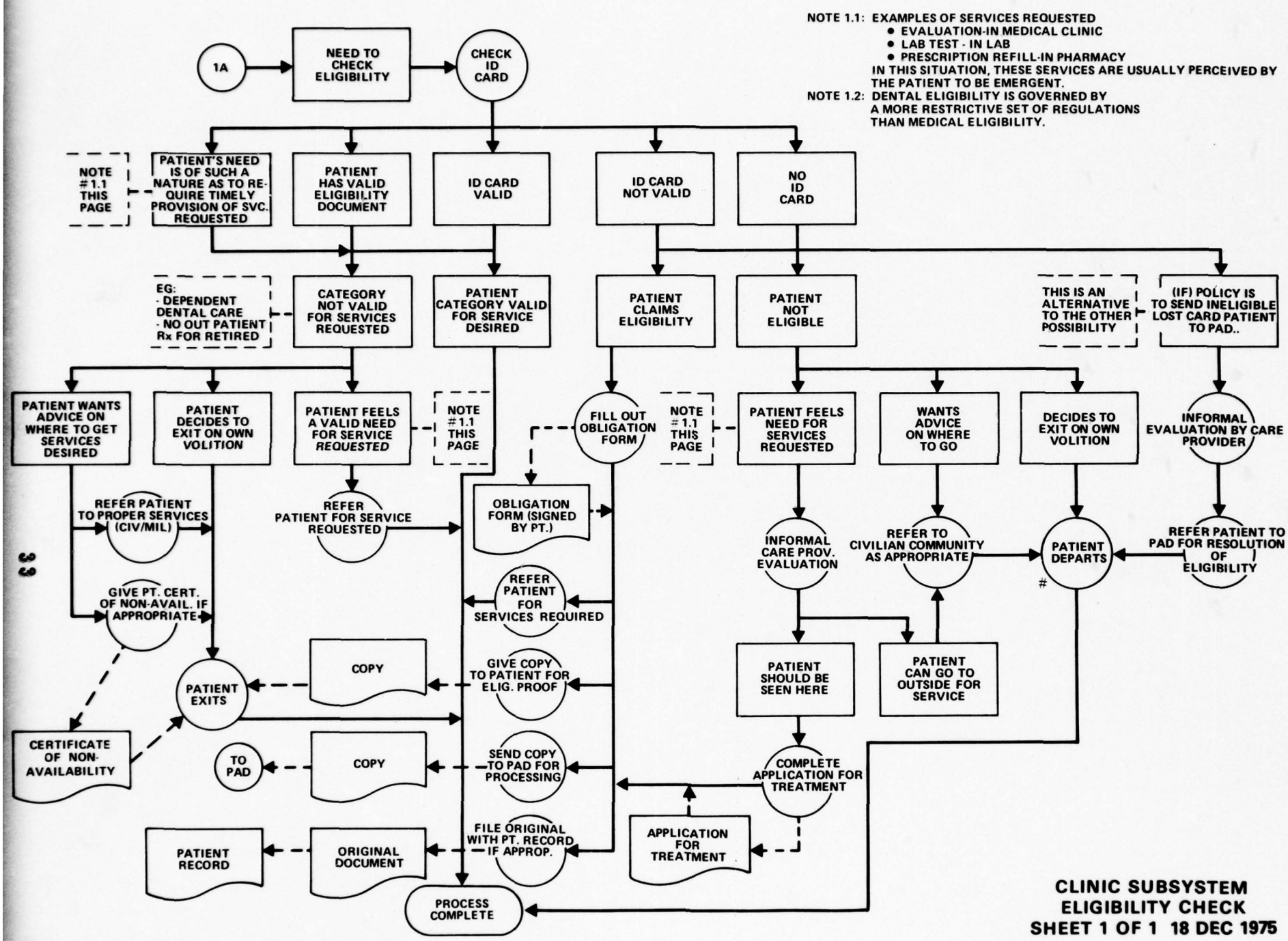


CLINIC SUBSYSTEM
CARE PROVIDER ENCOUNTER
SHEET 2 OF 3 18 DEC 1975

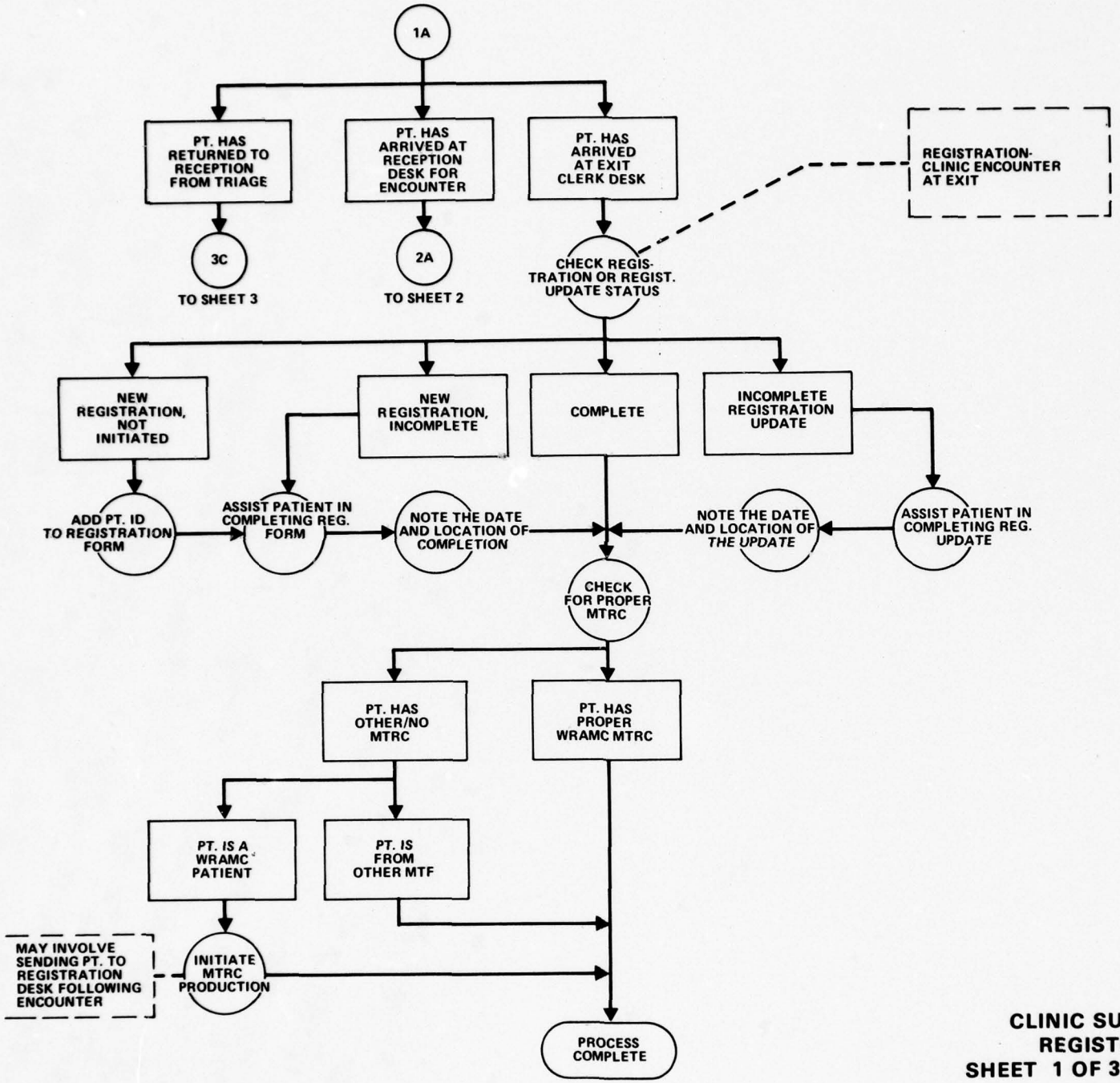


CLINIC SUBSYSTEM
CARE PROVIDER ENCOUNTER
SHEET 3 OF 3 18 DEC 1975

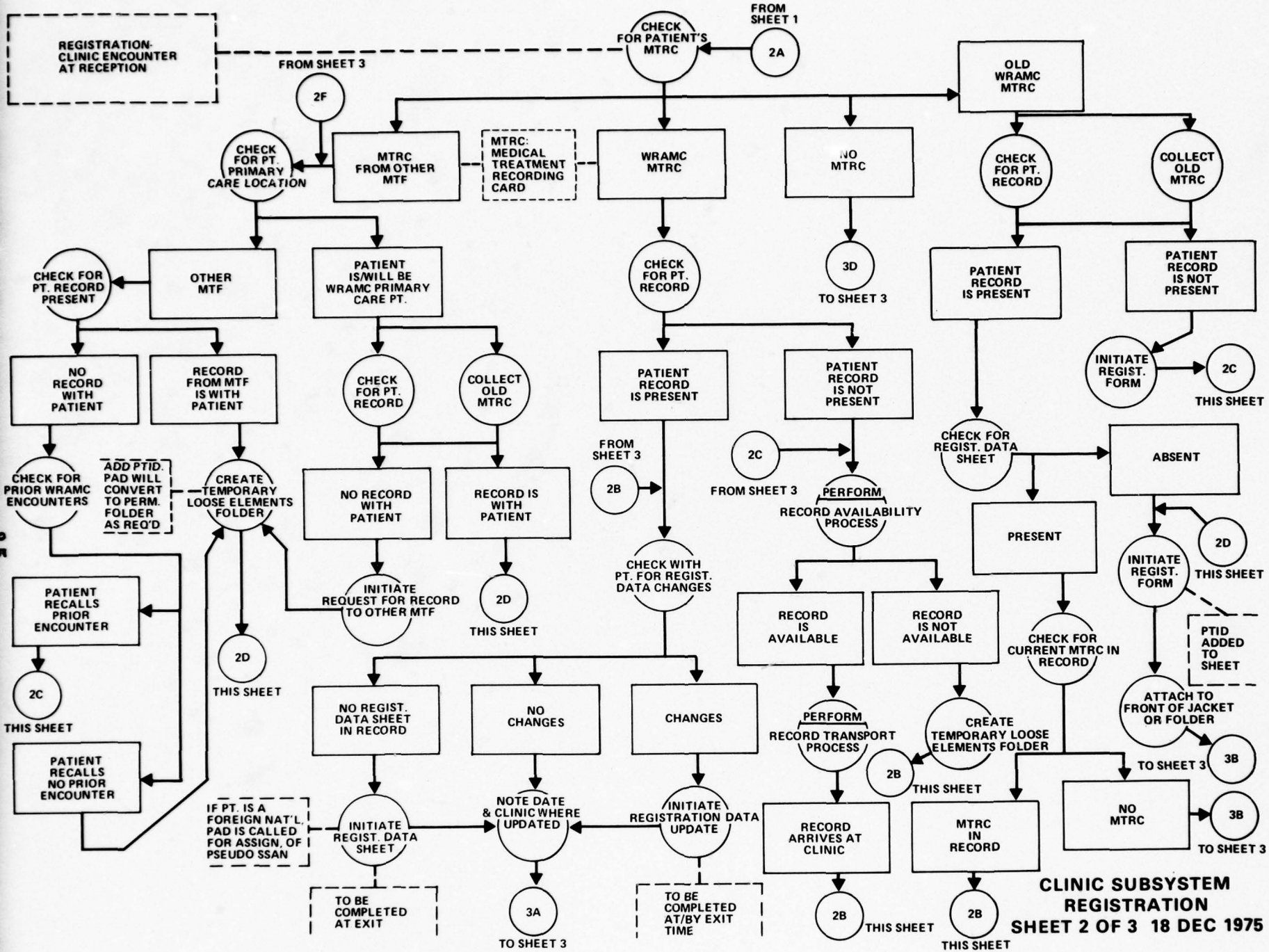

OTHER FORMS
1A
CARE PROVIDER IS/MUST FILL OUT ORDER FORM
REVIEW OF ORDER FOR COMPLETENESS REQUIRED
1B
THIS SHEET
CLERK TO INITIATE/ COMPLETE ORDER FORM
INITIATE ORDER FORM
COMPLETE AS REQUIRED
1B
CONSULT REQUIRED
EXAMPLES:
- DENTAL PROTHESIS
- LIMBS/BRACES
- WHEEL CHAIR
- RESPIRATOR
- B.P. CUFF
EQUIPMENT OR PROSTHESIS NEEDED BY PATIENT
MEDICATION ORDER (PHARMACY) REQUIRED
DIAGNOSTIC TEST REQ'D (ROUTINE)
INCLUDES TESTS NEEDED FOR A CONSULTANT
X-RAY IS REQ'D (ROUTINE)
- RADIOLOGY
- DENTAL
- CAST ROOM
INTERNAL CLINIC TEST OR PROCEDURE REQ'D
COMPLETE CONSULT FORM WITH REQ'D INFO.
MORE EXTENSIVE DOCUMENTATION REQ'D FOR EX-TERNALLY PROCESSED ORDERS e.g.- REGIONAL DENTAL ACTIVITY, ARMY BIOMED, RES. ACT.
MAKE REQ'D ANTHROPOMORPHIC MEASUREMENTS OR IM-PRESSIONS & DOCUMENT
PERFORM OUTPATIENT MEDICATION ORDERS PROCESS PER PHARMACY SUB-SYSTEM
EXAMPLES:
- MEDICAL
LAB
- EKG
SELECT PROPER REQUEST SLIP
- INDICATES GENERAL TYPE OF TEST
- MAY BE DONE AT EXIT PROCESS BY CLERK
FILL IN REQ'D INFO ON X-RAY REQ. FORM
1) VIEWS*
2) SUSPECTED Dx
3) ACTIONS* DESIRED
4) SIGNATURE
5) PT. HISTORY (IF REQ'D)
SELECT APPROPRIATE INTERNAL WORKING FORM
NO APPT. ON VERBAL COORD. NEEDED
WRITE EQUIP-MENT/PROSTHESIS PRESCRIPTION
1) TYPE*
2) LENGTH OF TIME*
3) CHRONIC/ ACUTE*
4) SIGNATURE
1) DRUG
2) DOSE FORM
3) DOSE STRENGTH
4) DOSE QUAN.
5) METHOD
6) ROUTE
7) FREQ.
8) START/STOP
9) REFILLS
10) SIGNATURE
FILL IN REQ'D INFO
1) TEST*
2) SPEC. INST'S*
3) RELEVANT PT. HISTORY
4) SIGNATURE (IF REQ'D)
1) TYPE*
2) LENGTH* OF TIME
3) CHRONIC/* ACCUTE
4) SIGNATURE
FILL IN REQ'D INFO
VERBAL COORD. REQ'D
MAKE ANY VERBAL ARRANGEMENTS NEEDED
APPOINTMENT REQUIRED
NOTE THIS INFO ON ENCOUNTER FORM
STAT ORDERS ARE EXPEDITED THRU THE SYSTEM
COMPLETE FORM
1) PTID
2) CLINIC
3) DOCTOR ORDERING
4) STATUS (STAT, PRIORITY, ROUTINE)/ SUSPENSE DATE
5) SELECTED DATA ITEMS MAY BE ENTERED BY CLERK FROM ENCOUNTER FORM (*'ed ABOVE)
6) LOCATION FOR RESULT RETURN (IF NOT CLINIC)
7) DESTINATION OF ORDER (IF NOT IMPLICIT WITHIN ORDER)
8) OTHER DATA AS REQ'D
ADMISSION & PRE-ADMISSION ORDERS
- STAMPED AS ADMISSION/PRE-ADMIT
- RESULT DESTINATION
1B
REVIEW FORM FOR COMPLETENESS
DEFINITIONAL NOTE:
THIS PROCESS HANDLES THREE WRITTEN ORDER SITU-ATIONS:
1) CARE PROVIDER FILLS OUT A WRITTEN ORDER DOCUMENT
2) THE EXIT CLERK INITIATES OR FILLS OUT A WRITTEN ORDER DOCUMENT
3) THE EXIT CLERK REVIEWS A PREVIOUSLY (PARTIALLY) FILLED OUT WRITTEN ORDER DOCUMENT
- CARE PROV. TO MAKE APPT.
INCOMPLETE, CARE PROVIDER MUST FILL IN DATA
FORM IS COMPLETE
INCOMPLETE, CLERK CAN ADD MISSING DATA
CLERK IS REVIEWING FORM FOR COMPLETENESS
PERFORM CLINIC APPOINTMENT PROCESS
EXIT CLERK TO MAKE APPOINT-MENTS (AS PART OF NORMAL EXIT PROCESS
MAY BE VERBAL (CLERK-TO PROVIDER)
REFER TO CARE PROVIDER FOR CORRECTION
CARE PROVIDER IS REVIEWING FORM FOR COMPLETENESS
FILL OUT APPT. SLIP
APPOINTMENT SLIP
PROCESS COMPLETE
(MAY) REFER TO EXIT PROCESS FOR COMPLETION
THIS SHEET
1A
CLINIC SUBSYSTEM
WRITTEN ORDER PROCESS
SHEET 1 OF 1 18 DEC 1975

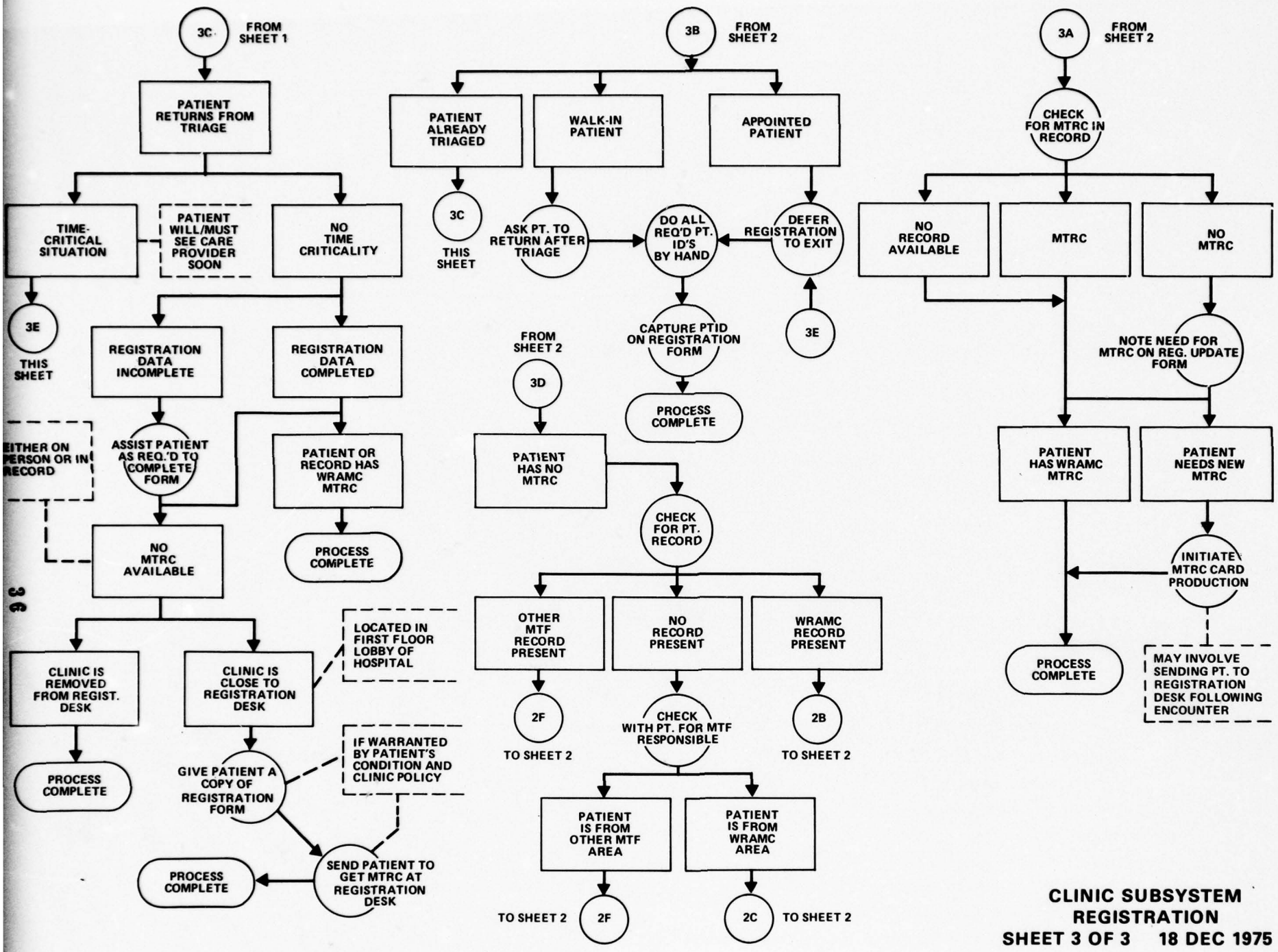


CLINIC SUBSYSTEM
ELIGIBILITY CHECK
SHEET 1 OF 1 18 DEC 1975

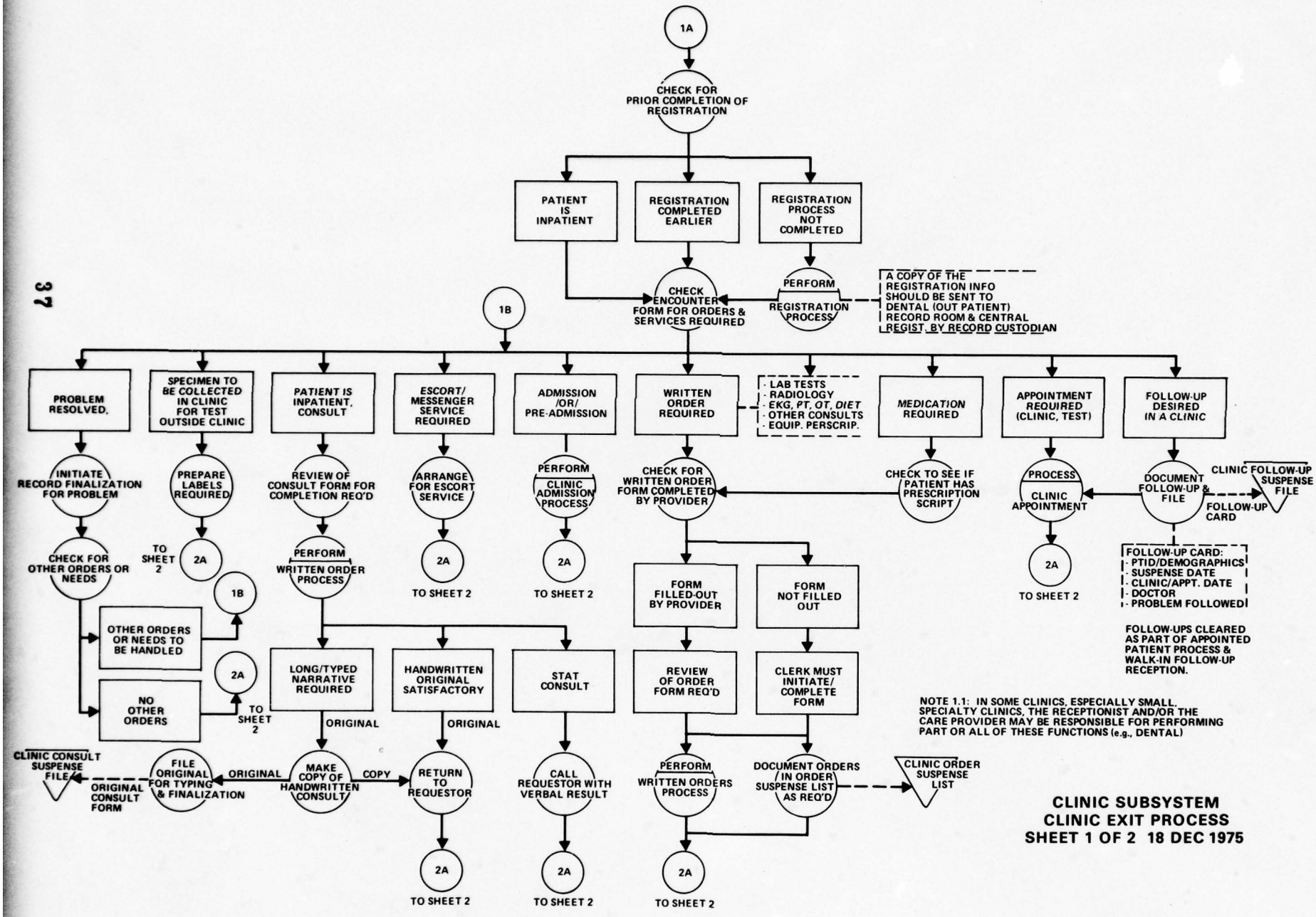


CLINIC SUBSYSTEM
REGISTRATION
SHEET 1 OF 3 18 DEC 1975

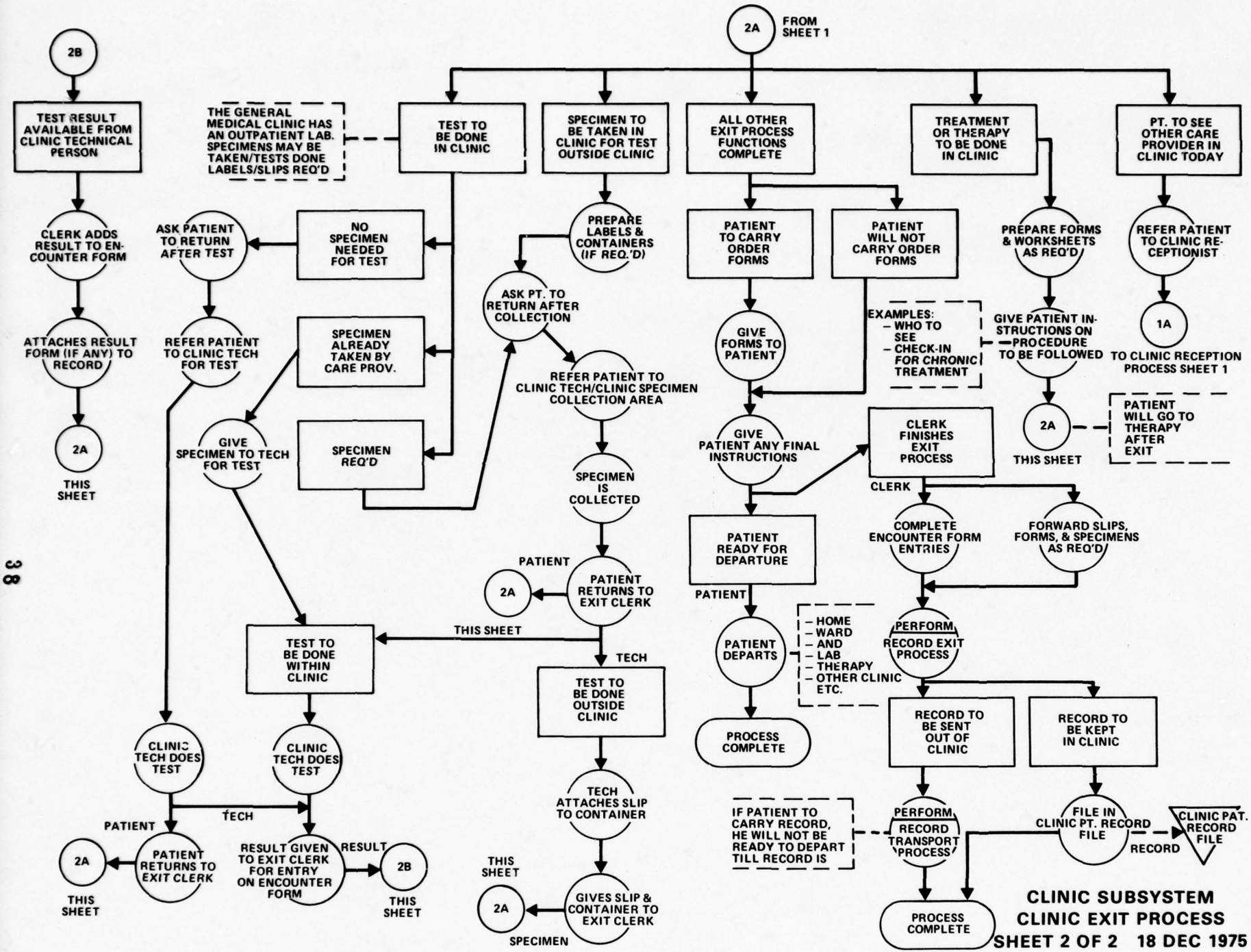

REGISTRATION-CLINIC ENCOUNTER AT RECEPTION
CHECK FOR PATIENT'S MTRC
FROM SHEET 1
2A
FROM SHEET 3
2F
OLD WRAMC MTRC
CHECK FOR PT. PRIMARY CARE LOCATION
MTRC FROM OTHER MTF
MTRC: MEDICAL TREATMENT RECORDING CARD
WRAMC MTRC
NO MTRC
CHECK FOR PT. RECORD
COLLECT OLD MTRC
3D
TO SHEET 3
OTHER MTF
PATIENT IS/WILL BE WRAMC PRIMARY CARE PT.
CHECK FOR PT. RECORD
PATIENT RECORD IS PRESENT
PATIENT RECORD IS NOT PRESENT
INITIATE REGIST. FORM
2C
THIS SHEET
NO RECORD WITH PATIENT
RECORD FROM MTF IS WITH PATIENT
CHECK FOR PT. RECORD
COLLECT OLD MTRC
PATIENT RECORD IS PRESENT
PATIENT RECORD IS NOT PRESENT
FROM SHEET 3
2B
2C
FROM SHEET 3
CHECK FOR REGIST. DATA SHEET
ABSENT
CHECK FOR PRIOR WRAMC ENCOUNTERS
ADD PTID. PAD WILL CONVERT TO PERM. FOLDER AS REQ'D
CREATE TEMPORARY LOOSE ELEMENTS FOLDER
NO RECORD WITH PATIENT
RECORD IS WITH PATIENT
PERFORM RECORD AVAILABILITY PROCESS
PRESENT
INITIATE REGIST. FORM
2D
THIS SHEET
PATIENT RECALLS PRIOR ENCOUNTER
INITIATE REQUEST FOR RECORD TO OTHER MTF
2D
THIS SHEET
CHECK WITH PT. FOR REGIST. DATA CHANGES
RECORD IS AVAILABLE
RECORD IS NOT AVAILABLE
CHECK FOR CURRENT MTRC IN RECORD
PTID ADDED TO SHEET
2C
THIS SHEET
2D
THIS SHEET
ATTACH TO FRONT OF JACKET OR FOLDER
TO SHEET 3
3B
PATIENT RECALLS NO PRIOR ENCOUNTER
NO REGIST. DATA SHEET IN RECORD
NO CHANGES
CHANGES
PERFORM RECORD TRANSPORT PROCESS
CREATE TEMPORARY LOOSE ELEMENTS FOLDER
2B
THIS SHEET
IF PT. IS A FOREIGN NAT'L. PAD IS CALLED FOR ASSIGN. OF PSEUDO SSAN
INITIATE REGIST. DATA SHEET
NOTE DATE & CLINIC WHERE UPDATED
INITIATE REGISTRATION DATA UPDATE
RECORD ARRIVES AT CLINIC
MTRC IN RECORD
NO MTRC
3B
TO SHEET 3
TO BE COMPLETED AT EXIT
3A
TO SHEET 3
TO BE COMPLETED AT/BY EXIT TIME
2B
THIS SHEET
2B
THIS SHEET
CLINIC SUBSYSTEM
REGISTRATION
SHEET 2 OF 3 18 DEC 1975



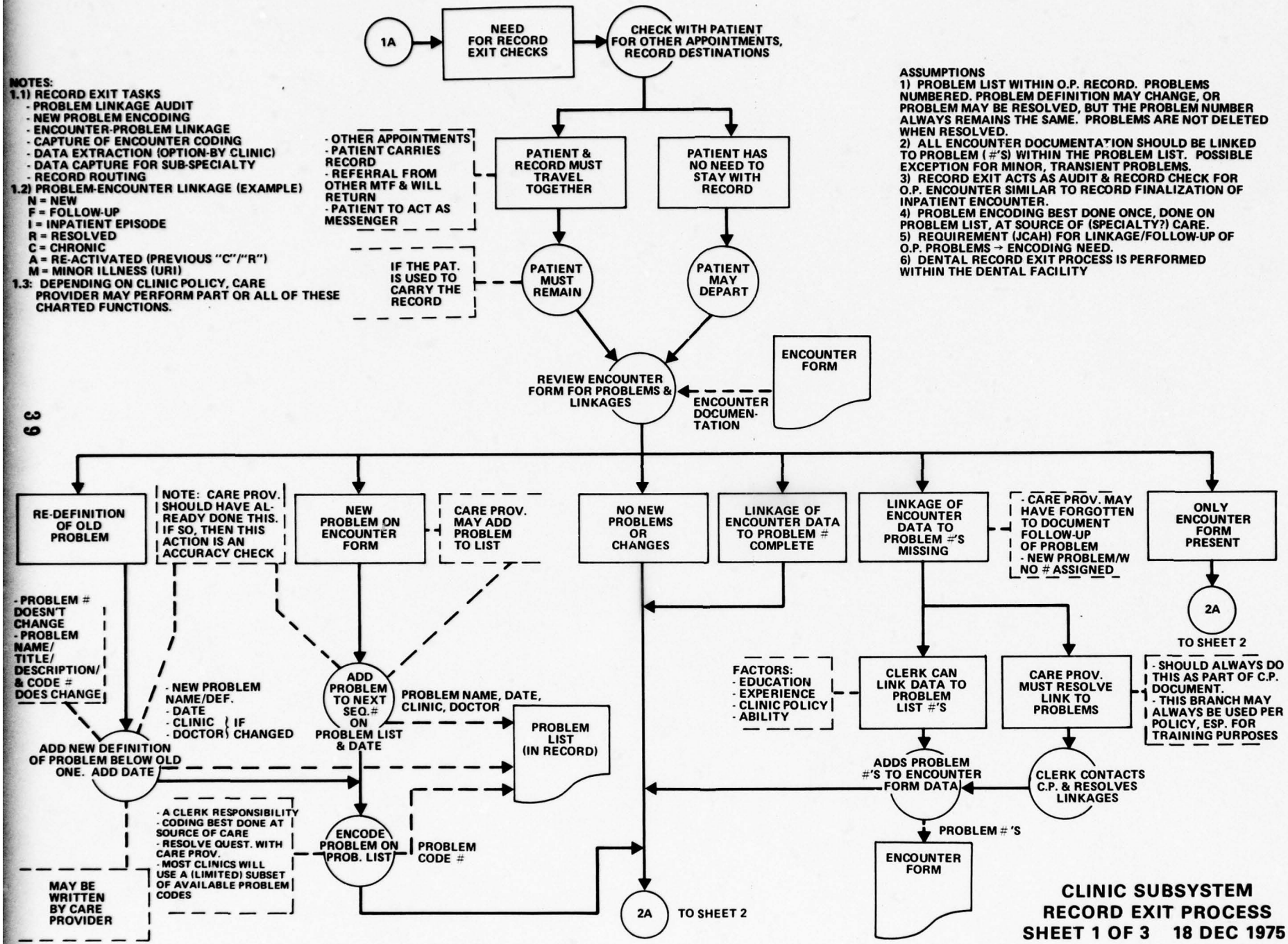
CLINIC SUBSYSTEM
REGISTRATION
SHEET 3 OF 3 18 DEC 1975

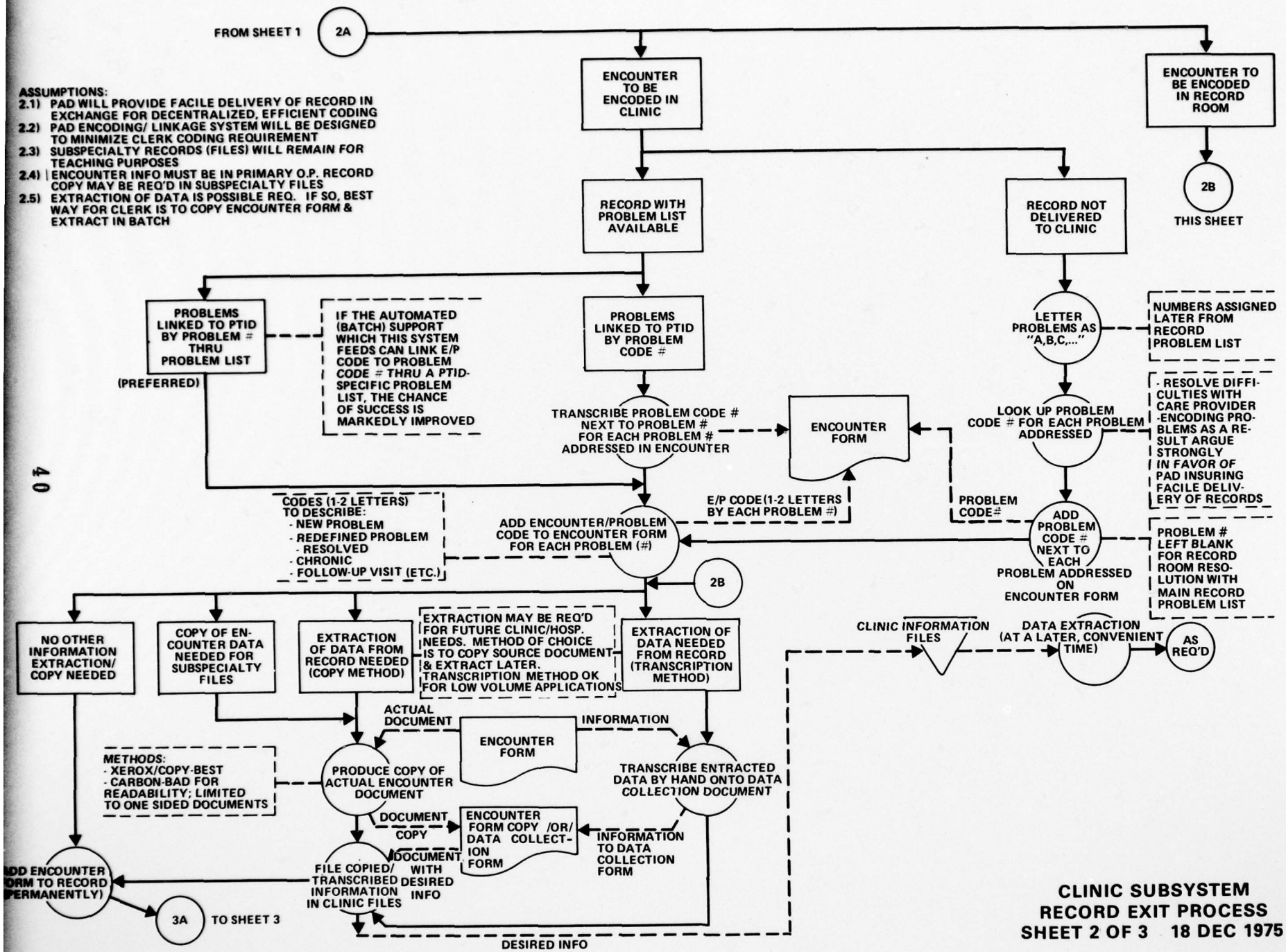


CLINIC SUBSYSTEM
CLINIC EXIT PROCESS
SHEET 1 OF 2 18 DEC 1975

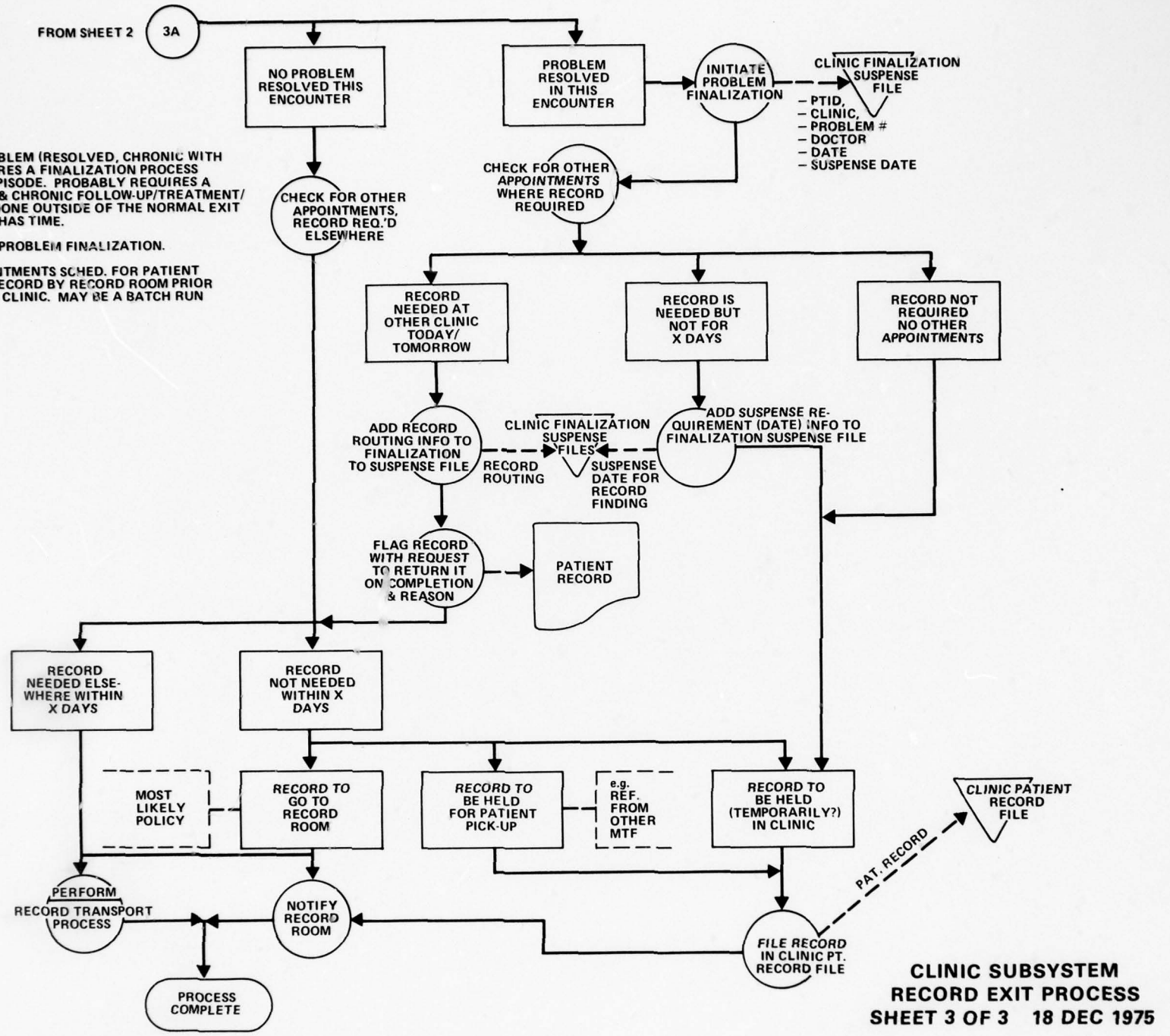


CLINIC SUBSYSTEM
CLINIC EXIT PROCESS
SHEET 2 OF 2 18 DEC 1975


NOTES:
1.1) RECORD EXIT TASKS
- PROBLEM LINKAGE AUDIT
- NEW PROBLEM ENCODING
- ENCOUNTER-PROBLEM LINKAGE
- CAPTURE OF ENCOUNTER CODING
- DATA EXTRACTION (OPTION-BY CLINIC)
- DATA CAPTURE FOR SUB-SPECIALTY
- RECORD ROUTING
1.2) PROBLEM-ENCOUNTER LINKAGE (EXAMPLE)
N = NEW
F = FOLLOW-UP
I = INPATIENT EPISODE
R = RESOLVED
C = CHRONIC
A = RE-ACTIVATED (PREVIOUS "C"/"R")
M = MINOR ILLNESS (URI)
1.3: DEPENDING ON CLINIC POLICY, CARE PROVIDER MAY PERFORM PART OR ALL OF THESE CHARTED FUNCTIONS.
1A
NEED FOR RECORD EXIT CHECKS
CHECK WITH PATIENT FOR OTHER APPOINTMENTS, RECORD DESTINATIONS
- OTHER APPOINTMENTS
- PATIENT CARRIES RECORD
- REFERRAL FROM OTHER MTF & WILL RETURN
- PATIENT TO ACT AS MESSENGER
PATIENT & RECORD MUST TRAVEL TOGETHER
PATIENT HAS NO NEED TO STAY WITH RECORD
IF THE PAT. IS USED TO CARRY THE RECORD
PATIENT MUST REMAIN
PATIENT MAY DEPART
ASSUMPTIONS
1) PROBLEM LIST WITHIN O.P. RECORD. PROBLEMS NUMBERED. PROBLEM DEFINITION MAY CHANGE, OR PROBLEM MAY BE RESOLVED, BUT THE PROBLEM NUMBER ALWAYS REMAINS THE SAME. PROBLEMS ARE NOT DELETED WHEN RESOLVED.
2) ALL ENCOUNTER DOCUMENTATION SHOULD BE LINKED TO PROBLEM (#'S) WITHIN THE PROBLEM LIST. POSSIBLE EXCEPTION FOR MINOR, TRANSIENT PROBLEMS.
3) RECORD EXIT ACTS AS AUDIT & RECORD CHECK FOR O.P. ENCOUNTER SIMILAR TO RECORD FINALIZATION OF INPATIENT ENCOUNTER.
4) PROBLEM ENCODING BEST DONE ONCE, DONE ON PROBLEM LIST, AT SOURCE OF (SPECIALTY?) CARE.
5) REQUIREMENT (JCAH) FOR LINKAGE/FOLLOW-UP OF O.P. PROBLEMS → ENCODING NEED.
6) DENTAL RECORD EXIT PROCESS IS PERFORMED WITHIN THE DENTAL FACILITY
REVIEW ENCOUNTER FORM FOR PROBLEMS & LINKAGES
ENCOUNTER FORM
ENCOUNTER DOCUMEN-TATION
63
RE-DEFINITION OF OLD PROBLEM
NOTE: CARE PROV. SHOULD HAVE ALREADY DONE THIS. IF SO, THEN THIS ACTION IS AN ACCURACY CHECK
NEW PROBLEM ON ENCOUNTER FORM
CARE PROV. MAY ADD PROBLEM TO LIST
NO NEW PROBLEMS OR CHANGES
LINKAGE OF ENCOUNTER DATA TO PROBLEM # COMPLETE
LINKAGE OF ENCOUNTER DATA TO PROBLEM #'S MISSING
- CARE PROV. MAY HAVE FORGOTTEN TO DOCUMENT FOLLOW-UP OF PROBLEM
- NEW PROBLEM/W NO # ASSIGNED
ONLY ENCOUNTER FORM PRESENT
2A
TO SHEET 2
- PROBLEM # DOESN'T CHANGE
- PROBLEM NAME/ TITLE/ DESCRIPTION/ & CODE # DOES CHANGE
- NEW PROBLEM NAME/DEF.
- DATE
- CLINIC } IF
- DOCTOR } CHANGED
ADD PROBLEM TO NEXT SEQ.# ON PROBLEM LIST & DATE
PROBLEM NAME, DATE, CLINIC, DOCTOR
PROBLEM LIST (IN RECORD)
ADD NEW DEFINITION OF PROBLEM BELOW OLD ONE. ADD DATE
FACTORS:
- EDUCATION
- EXPERIENCE
- CLINIC POLICY
- ABILITY
CLERK CAN LINK DATA TO PROBLEM LIST #'S
CARE PROV. MUST RESOLVE LINK TO PROBLEMS
- SHOULD ALWAYS DO THIS AS PART OF C.P. DOCUMENT.
- THIS BRANCH MAY ALWAYS BE USED PER POLICY, ESP. FOR TRAINING PURPOSES
ADDS PROBLEM #'S TO ENCOUNTER FORM DATA
CLERK CONTACTS C.P. & RESOLVES LINKAGES
PROBLEM #'S
ENCOUNTER FORM
- A CLERK RESPONSIBILITY
- CODING BEST DONE AT SOURCE OF CARE
- RESOLVE QUEST. WITH CARE PROV.
- MOST CLINICS WILL USE A (LIMITED) SUBSET OF AVAILABLE PROBLEM CODES
ENCODE PROBLEM ON PROB. LIST
PROBLEM CODE #
MAY BE WRITTEN BY CARE PROVIDER
2A
TO SHEET 2
CLINIC SUBSYSTEM
RECORD EXIT PROCESS
SHEET 1 OF 3 18 DEC 1975



CLINIC SUBSYSTEM
RECORD EXIT PROCESS
SHEET 2 OF 3 18 DEC 1975



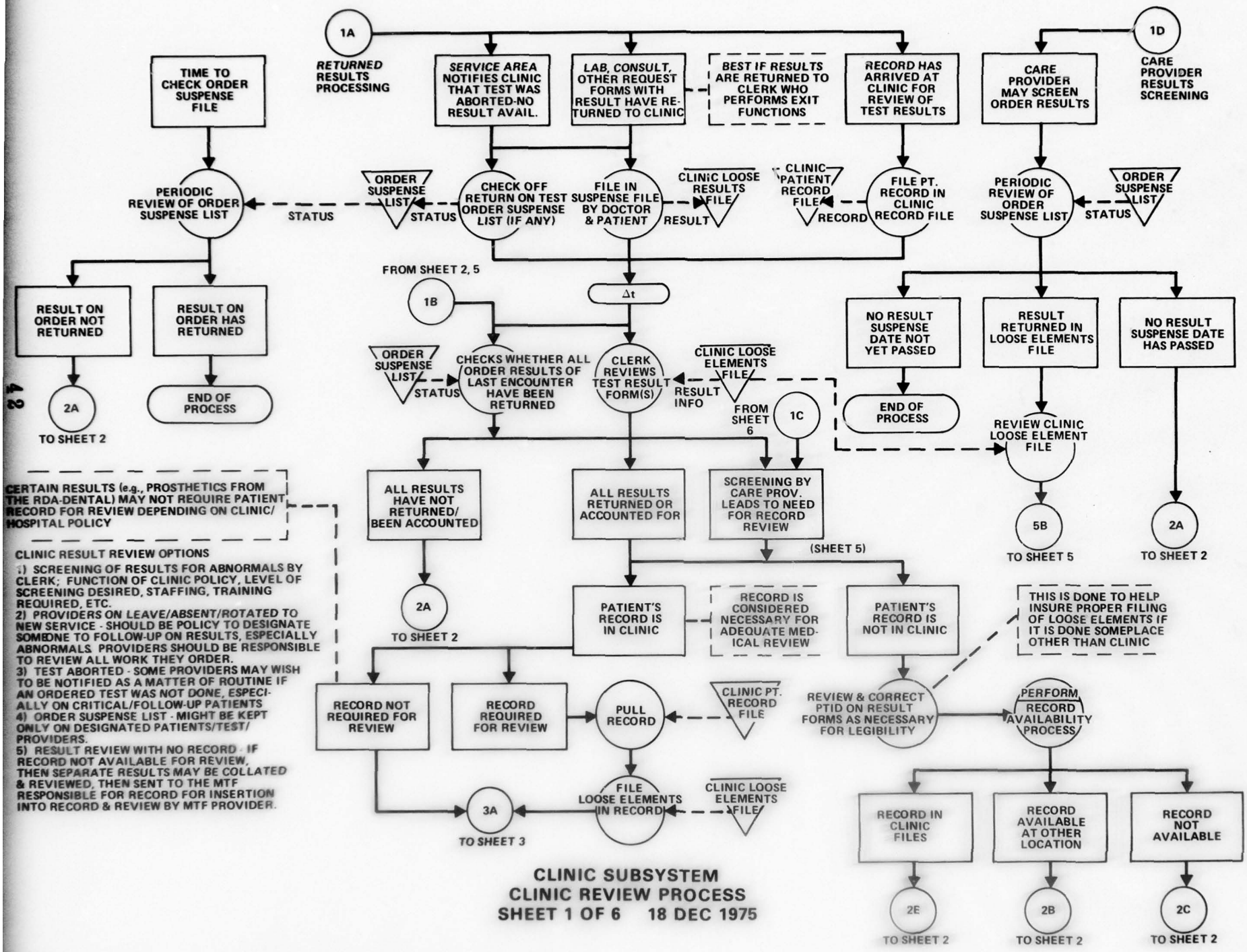
ASSUMPTIONS:

3.1) RESOLUTION OF O.P. PROBLEM (RESOLVED, CHRONIC WITH FOLLOW-UP INST.) REQUIRES A FINALIZATION PROCESS SIMILAR TO INPATIENT EPISODE. PROBABLY REQUIRES A SUMMARY OF PROBLEMS & CHRONIC FOLLOW-UP/TREATMENT/ THERAPY. THIS IS BEST DONE OUTSIDE OF THE NORMAL EXIT PROCESS AS CARE PROV. HAS TIME.

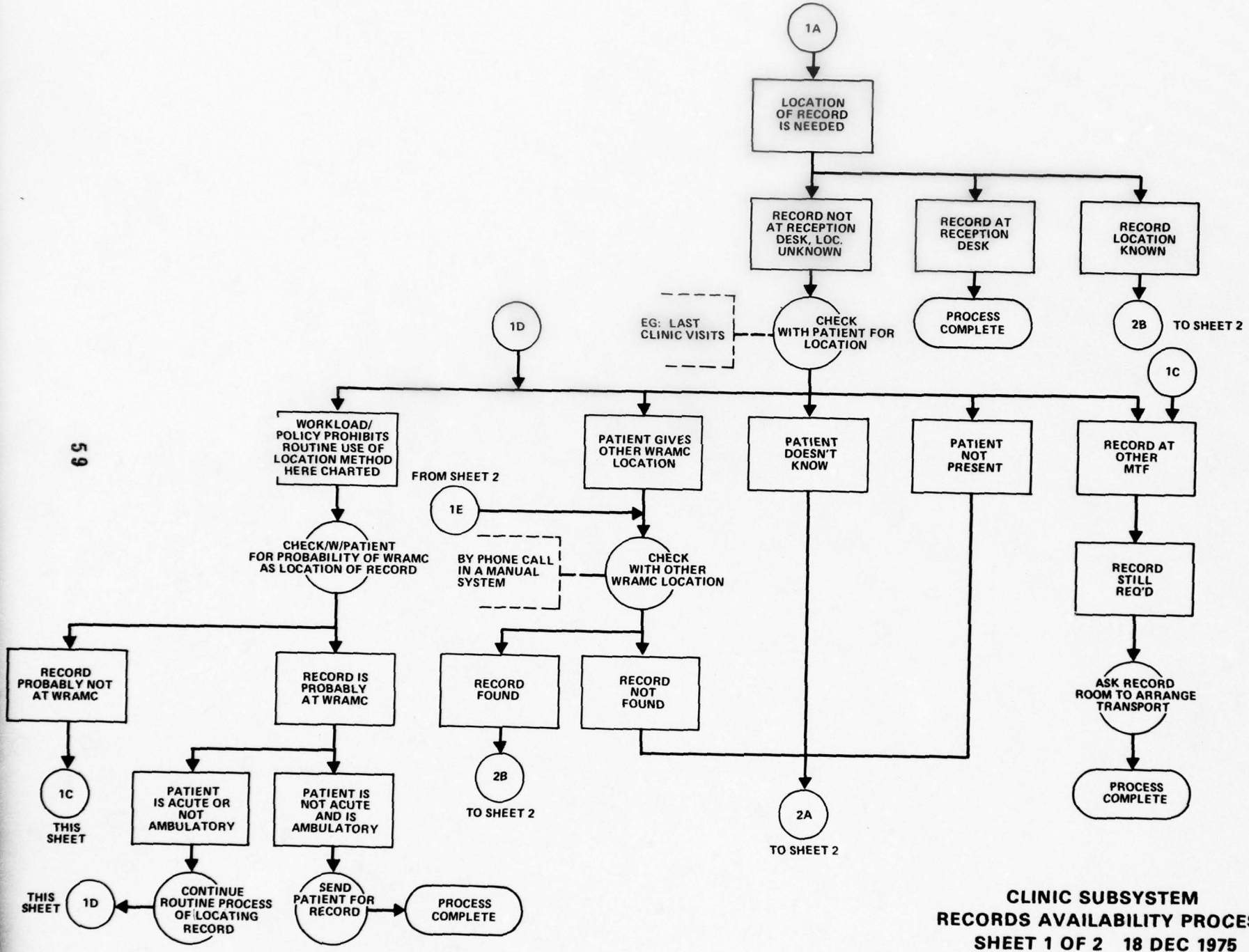
3.2) RECORD REQUIRED FOR PROBLEM FINALIZATION.

3.3) INFORMATION ON APPOINTMENTS SCHED. FOR PATIENT WILL BE PLACED ON/IN RECORD BY RECORD ROOM PRIOR TO BEING SENT TO (THIS) CLINIC. MAY BE A BATCH RUN COMPUTER LIST.

CLINIC SUBSYSTEM
RECORD EXIT PROCESS
SHEET 3 OF 3 18 DEC 1975

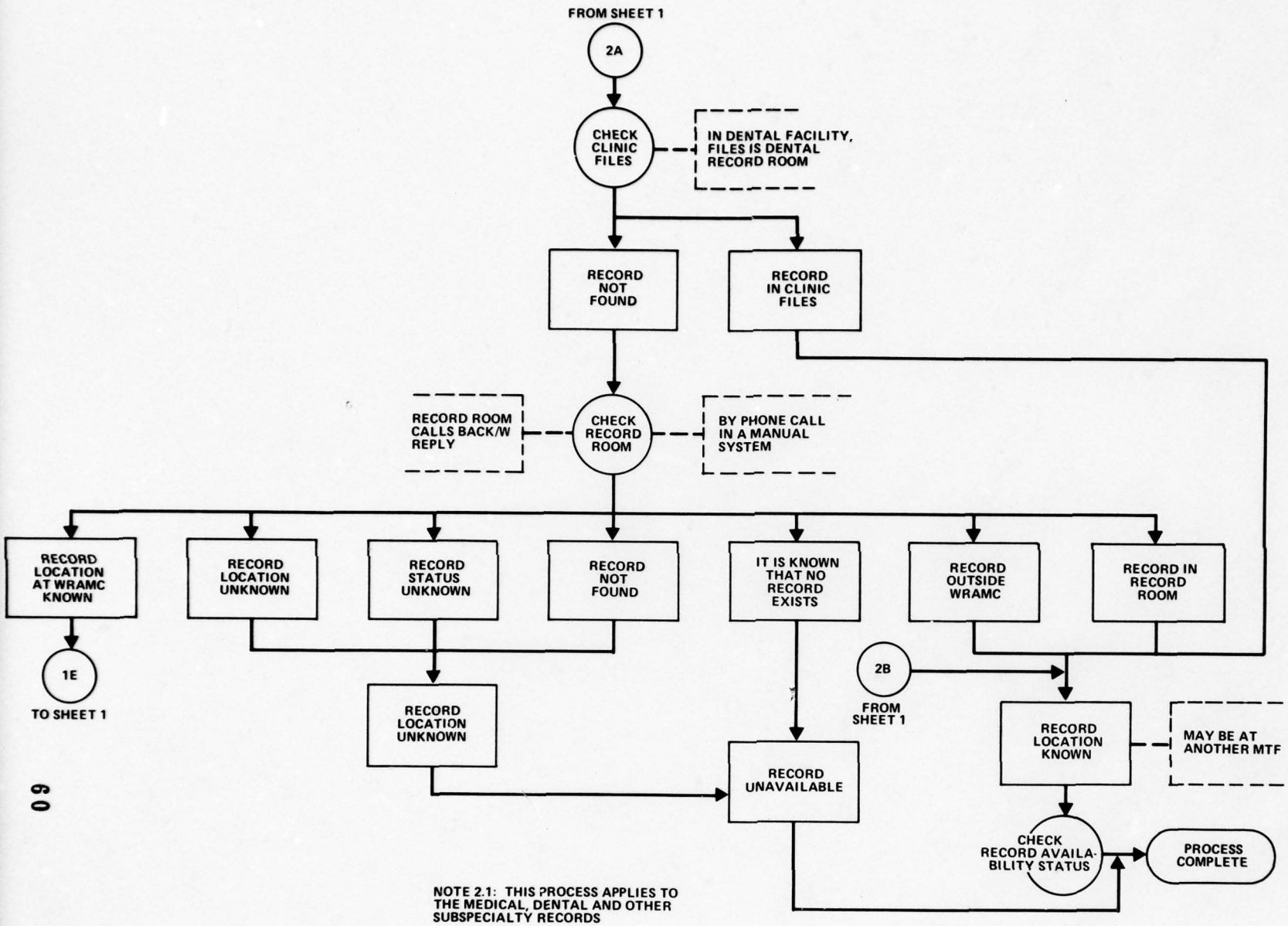


CLINIC SUBSYSTEM
CLINIC REVIEW PROCESS
SHEET 1 OF 6 18 DEC 1975



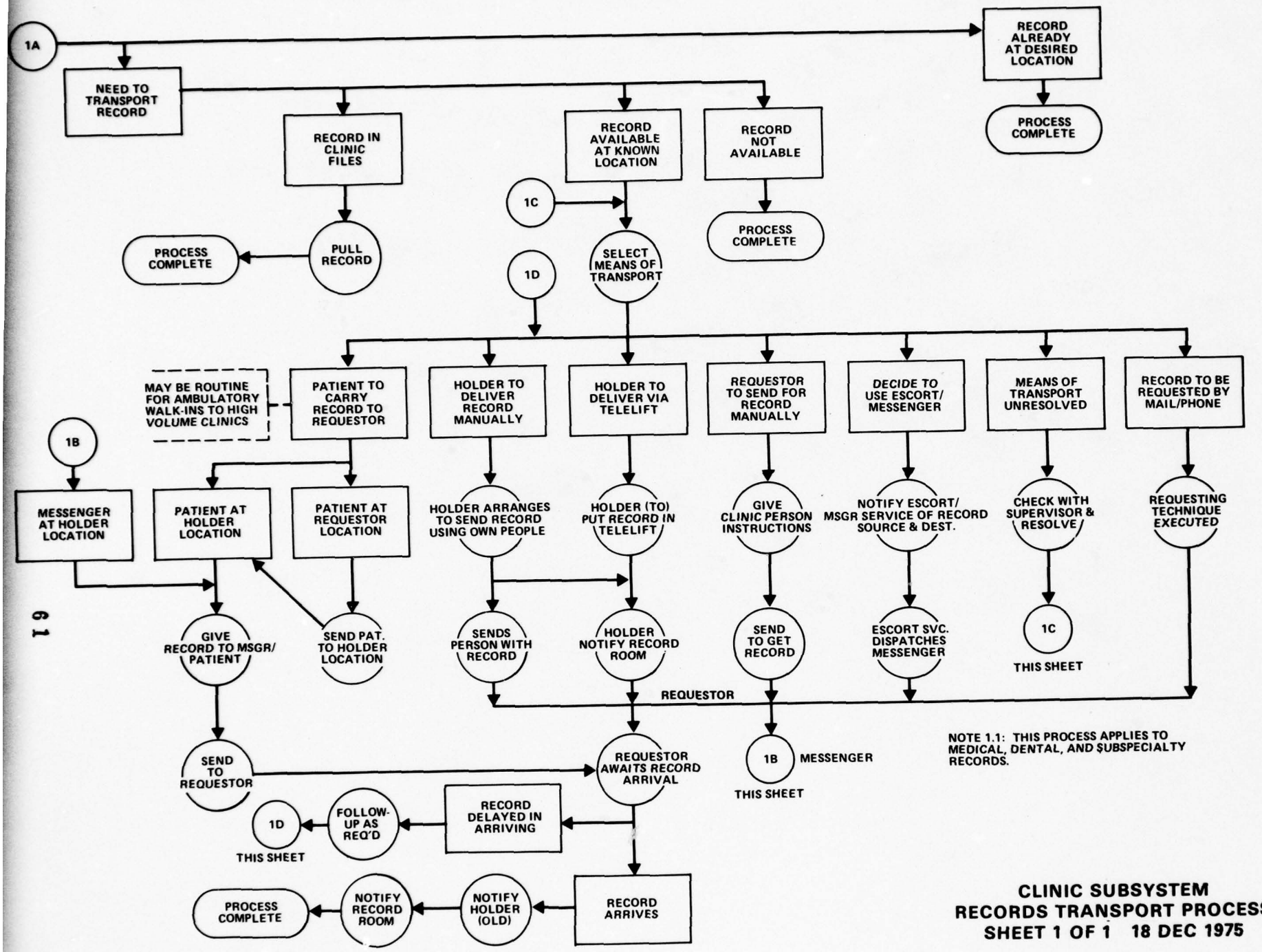
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CLINIC SUBSYSTEM
RECORDS AVAILABILITY PROCESS
SHEET 1 OF 2 18 DEC 1975



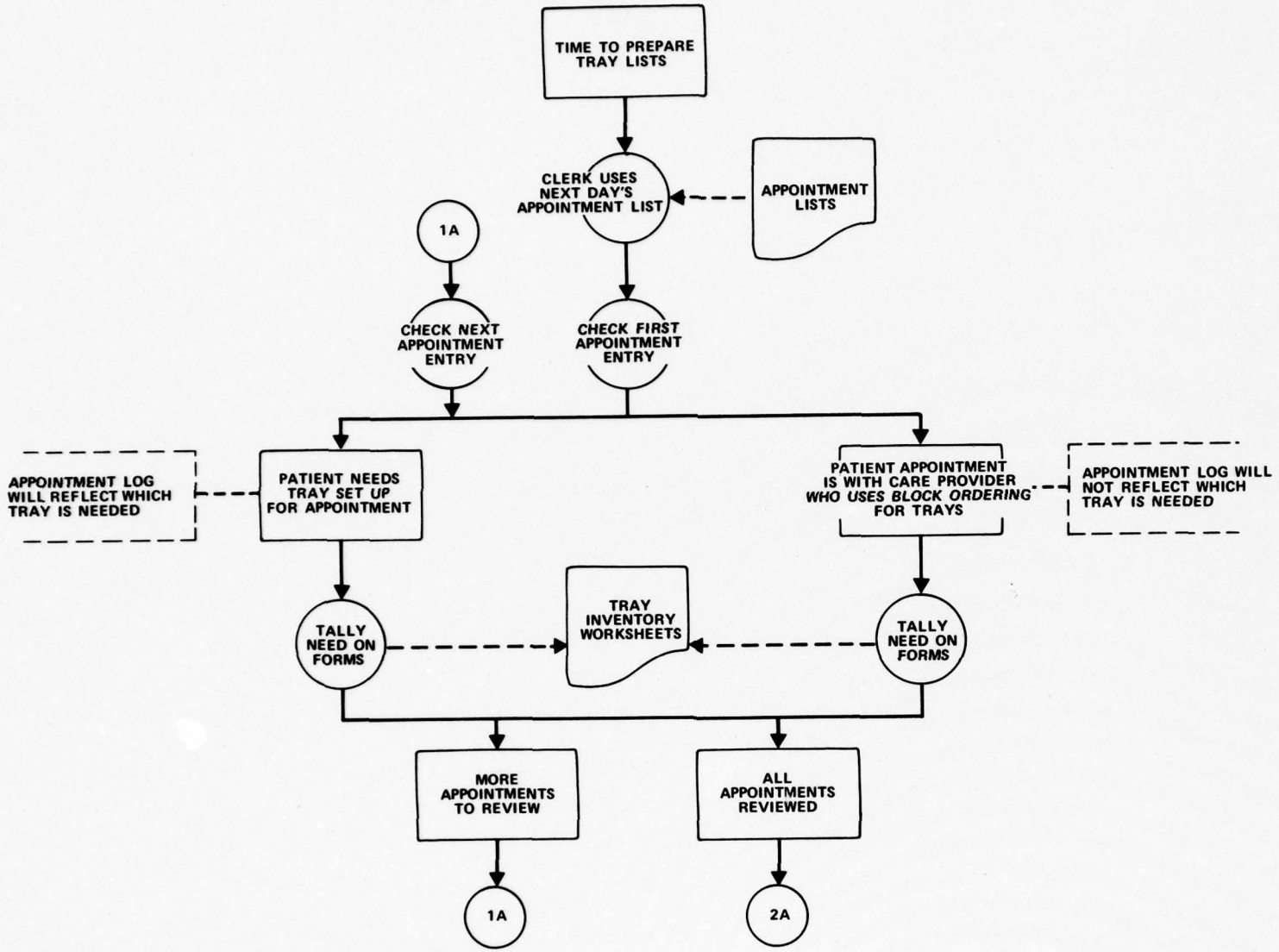
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CLINIC SUBSYSTEM
RECORDS AVAILABILITY PROCESS
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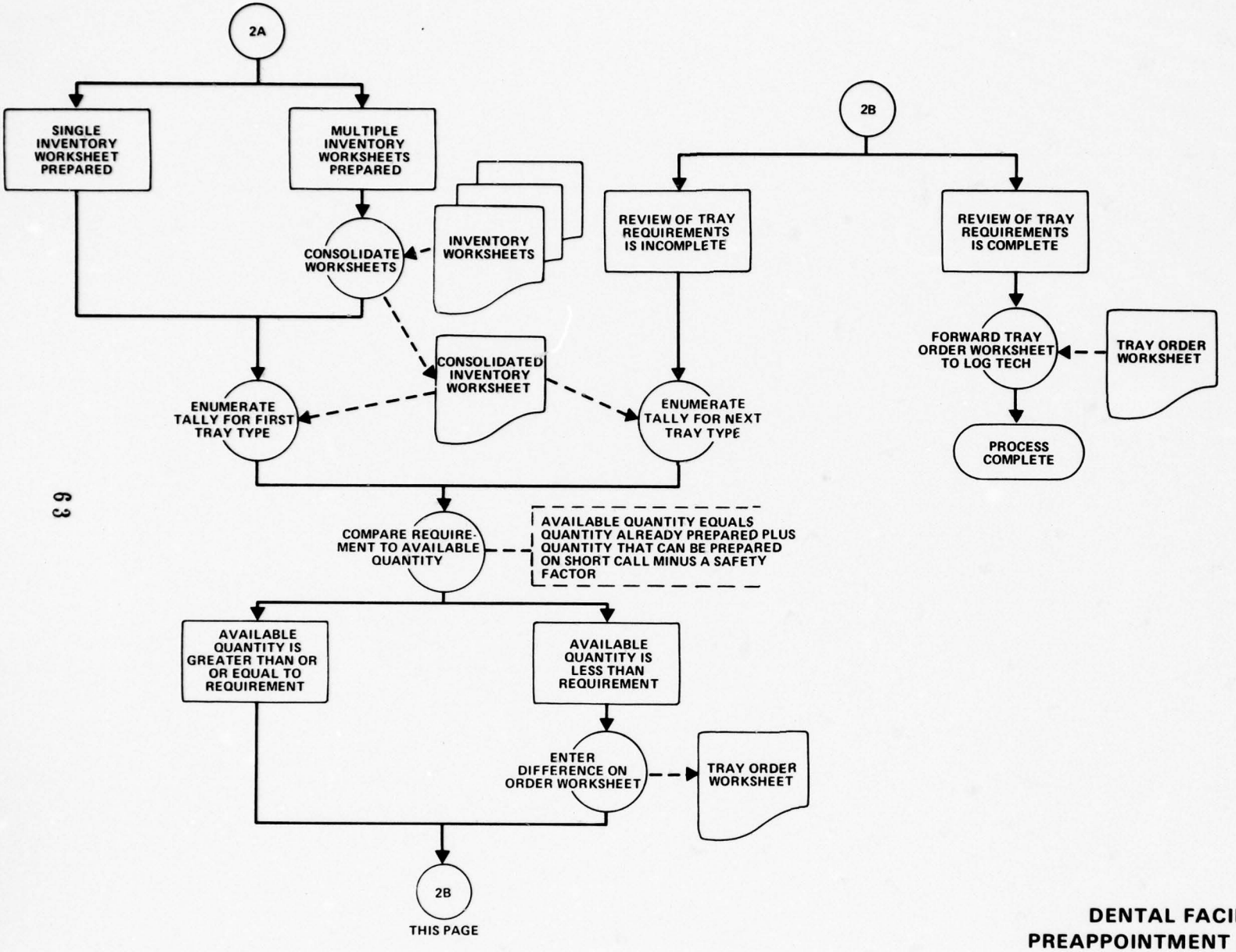


NOTE 1.1: THIS PROCESS APPLIES TO MEDICAL, DENTAL, AND SUBSPECIALTY RECORDS.

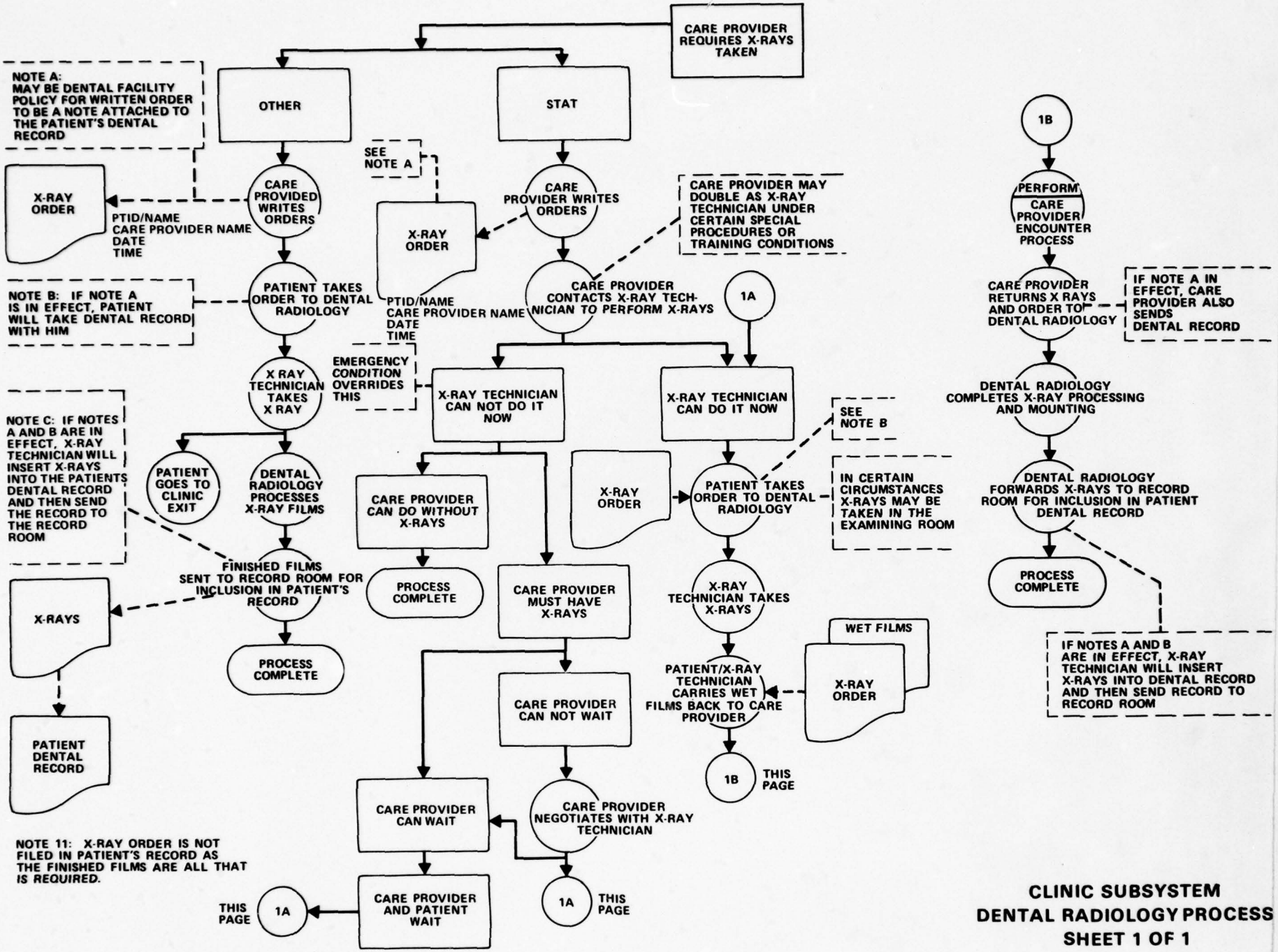
CLINIC SUBSYSTEM
RECORDS TRANSPORT PROCESS
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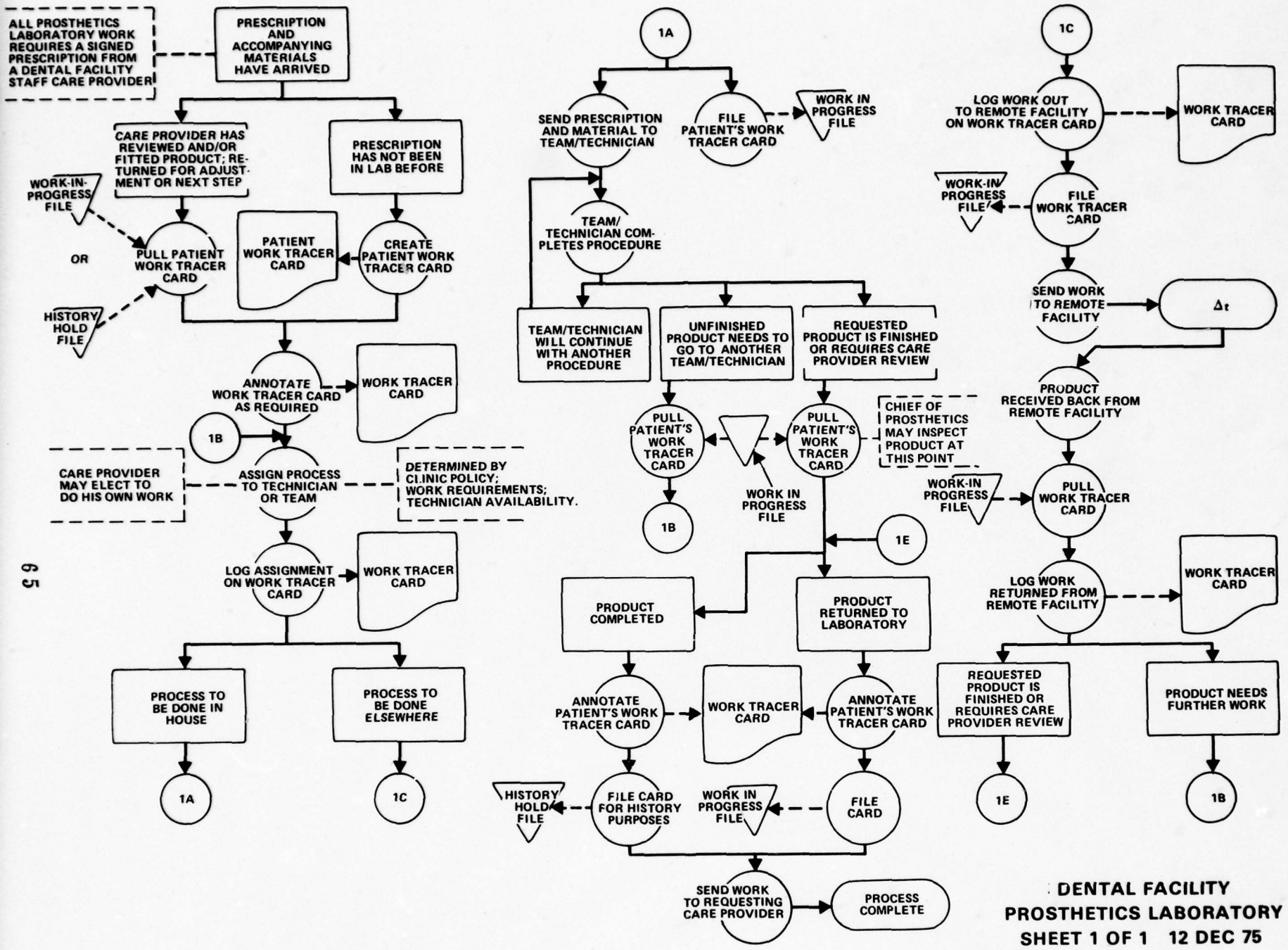
DENTAL FACILITY
PREAPPOINTMENT ACTIVITY
SHEET 1 OF 2 12 DEC 75



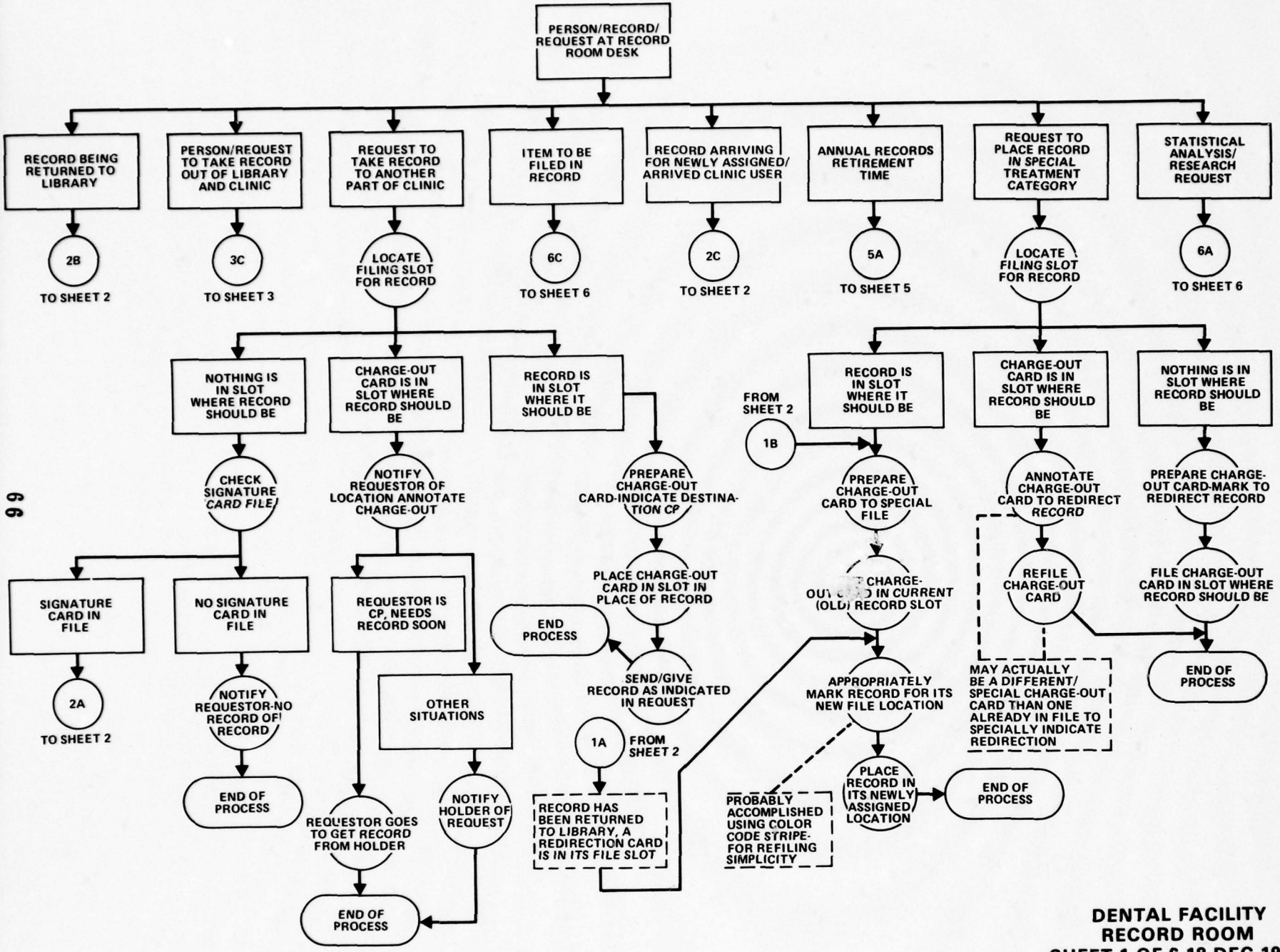
DENTAL FACILITY
PREAPPOINTMENT ACTIVITY
SHEET 2 OF 2 12 DEC 75



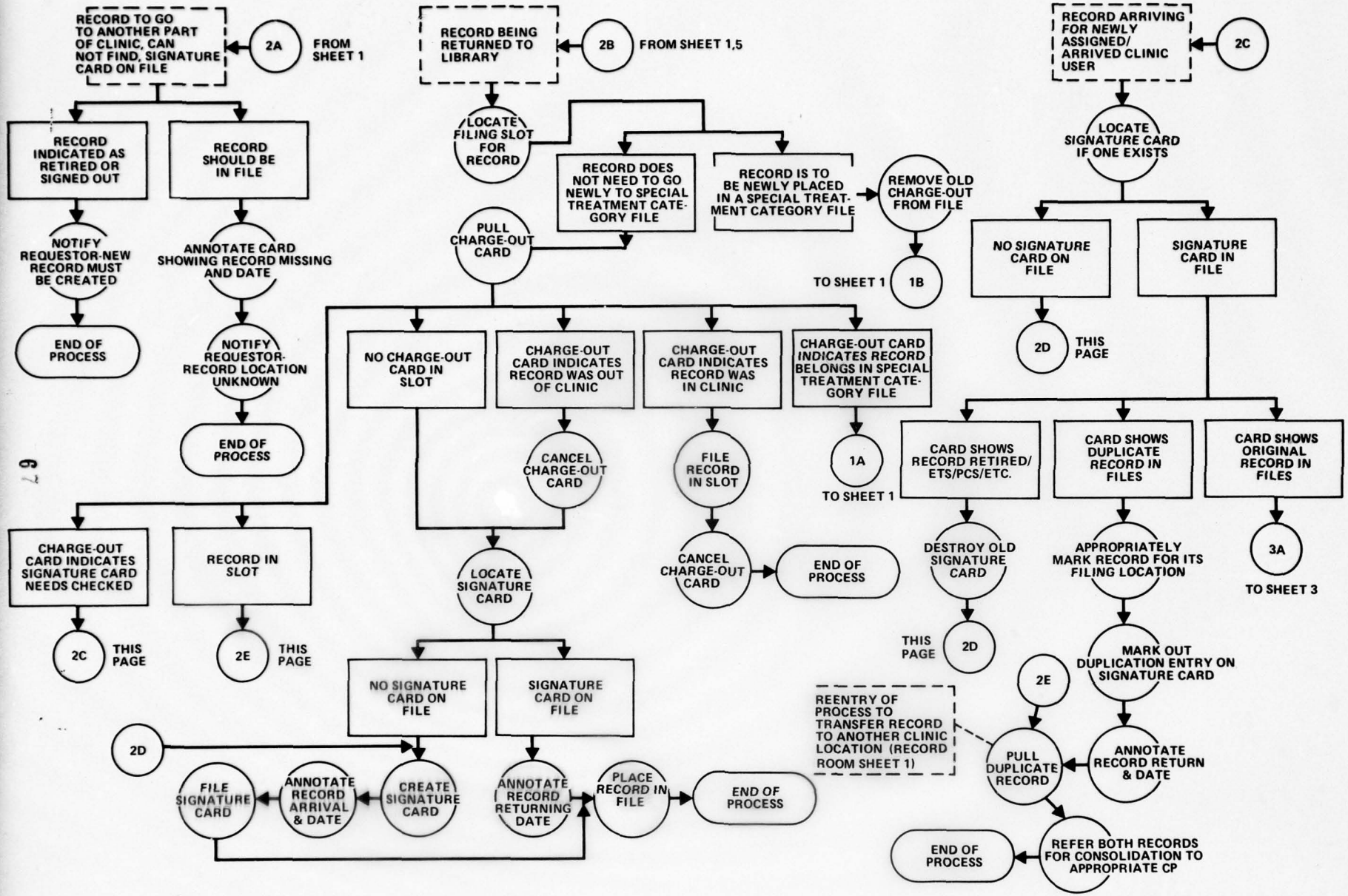
CLINIC SUBSYSTEM
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SHEET 1 OF 1



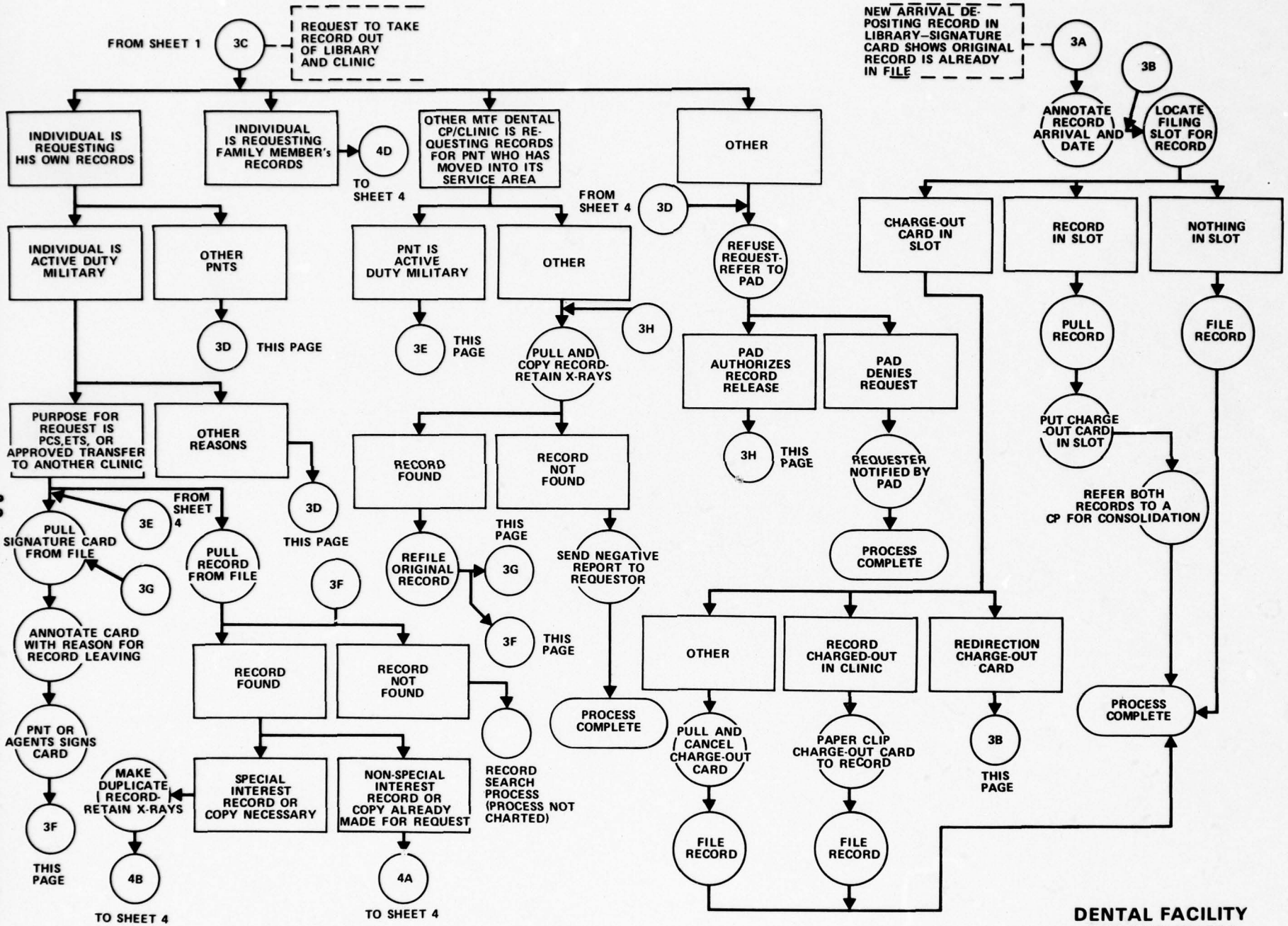
DENTAL FACILITY
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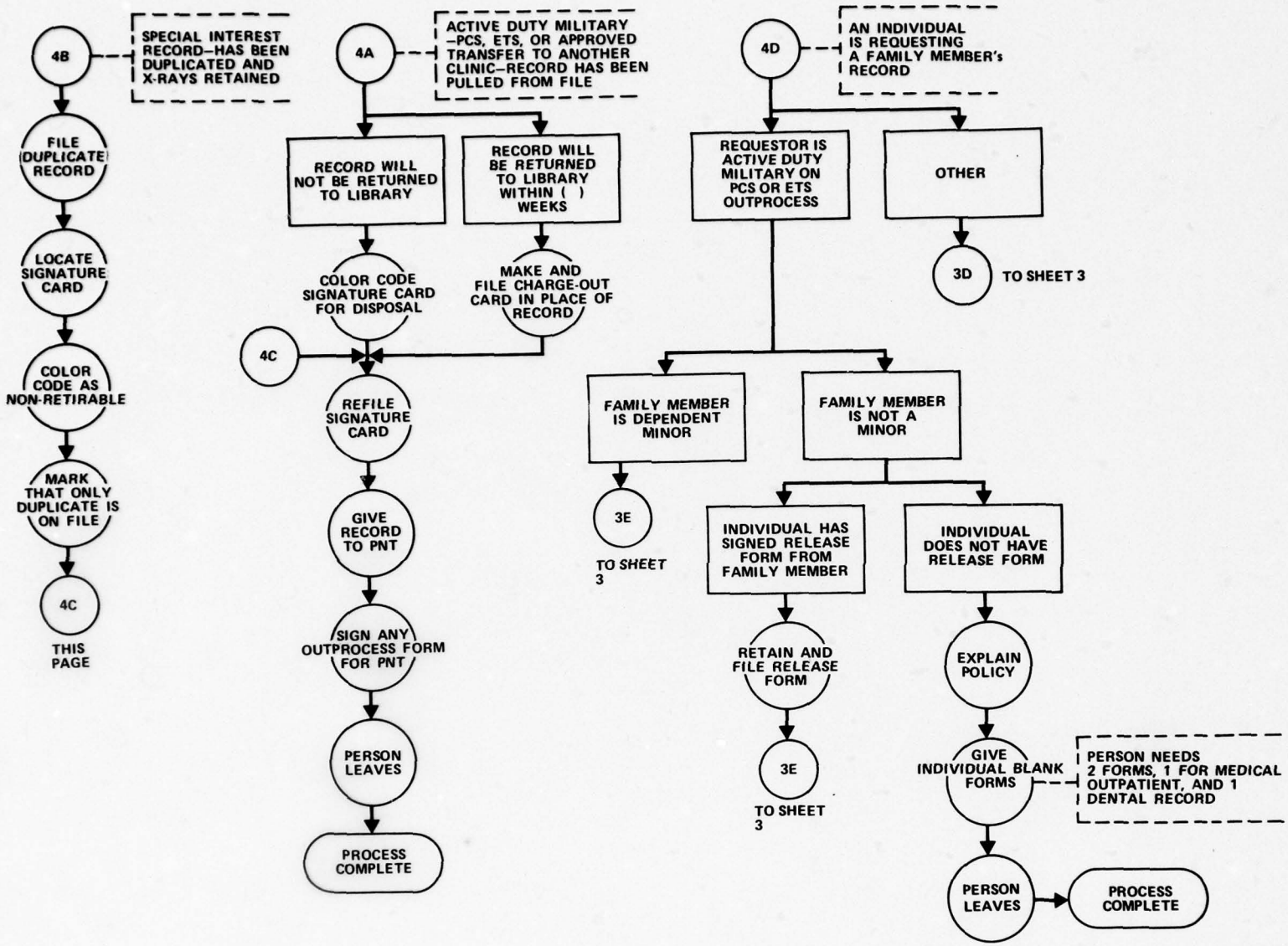
DENTAL FACILITY
RECORD ROOM
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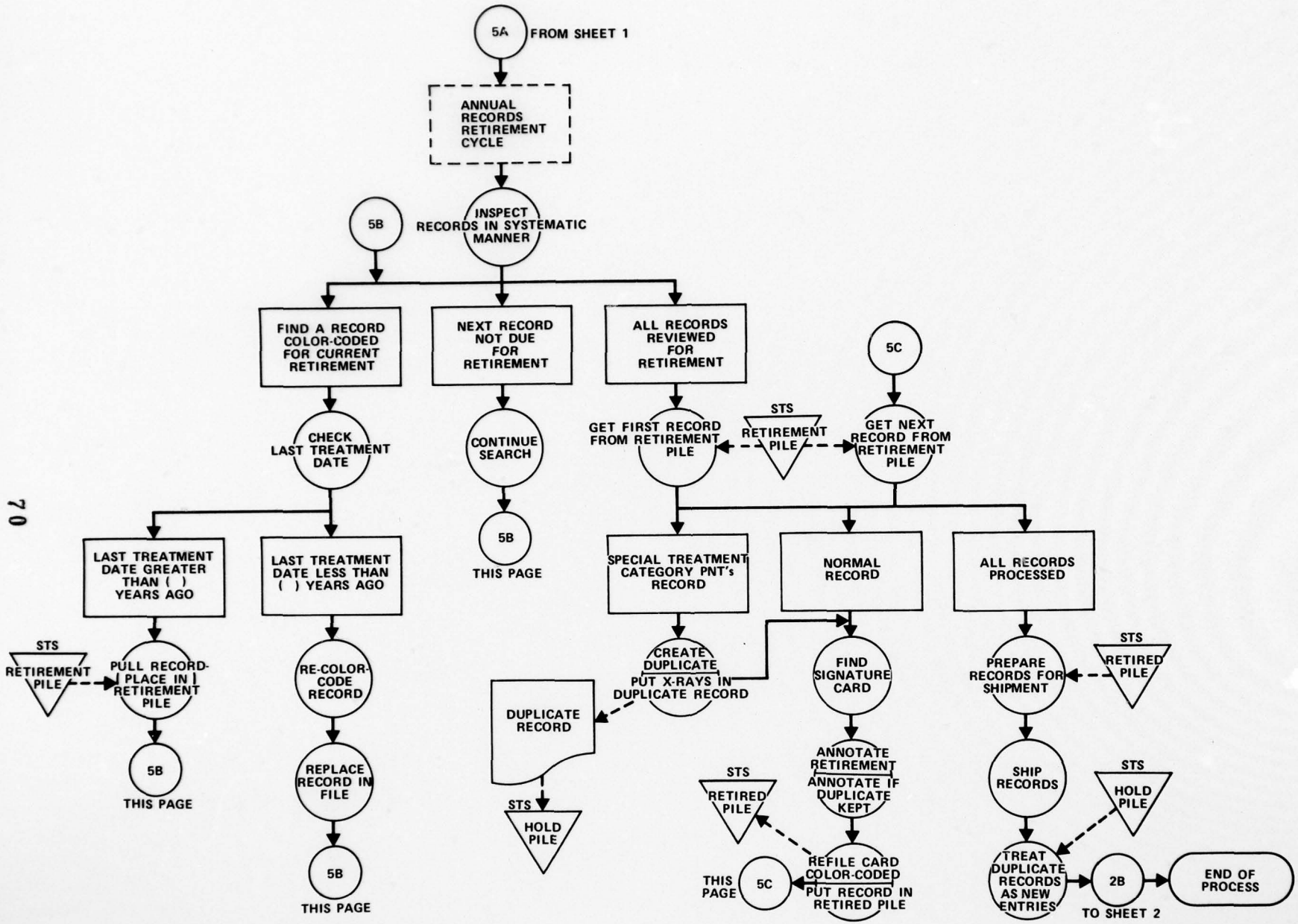
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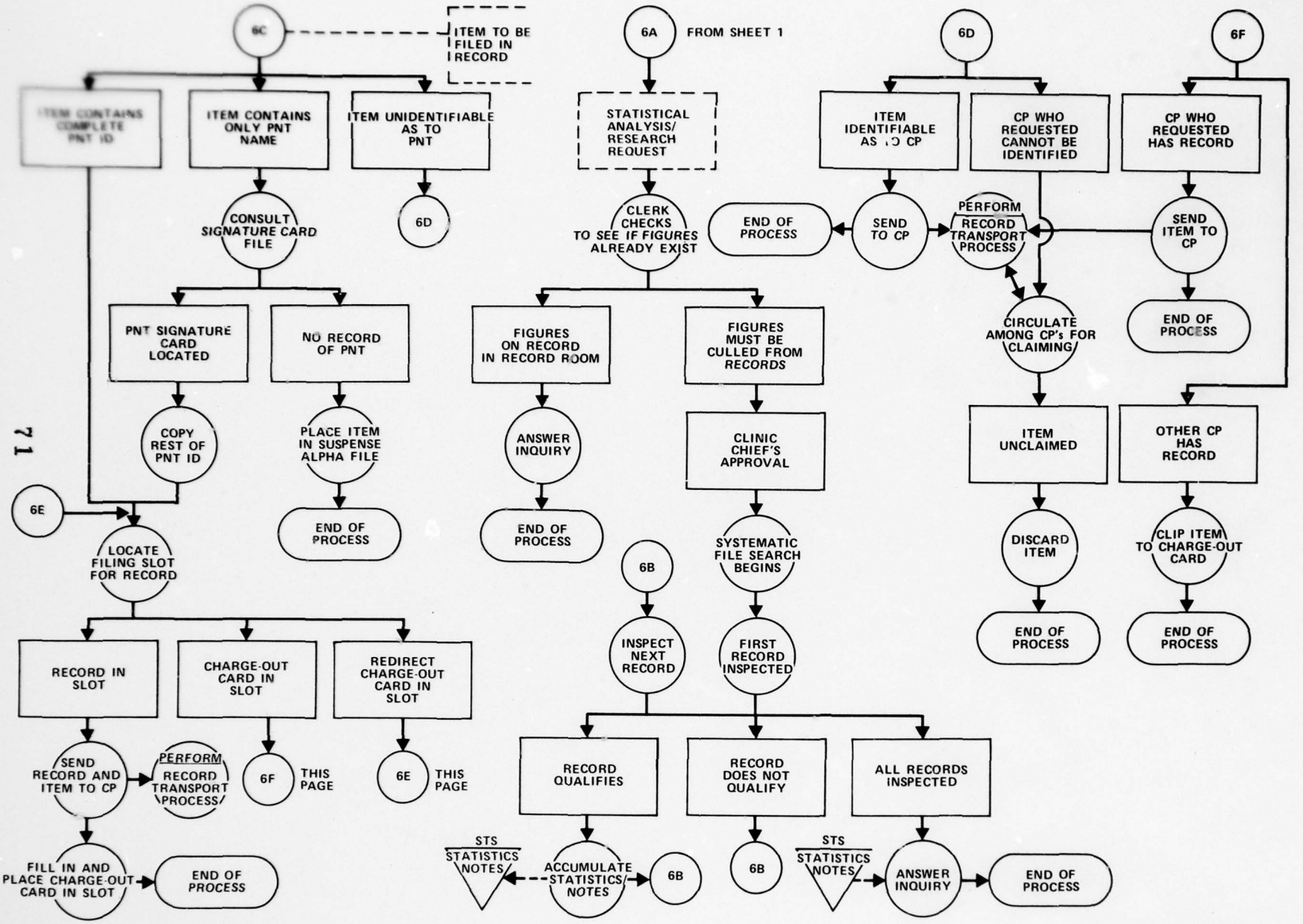
DENTAL FACILITY
RECORD ROOM
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DENTAL FACILITY
RECORD ROOM
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DENTAL FACILITY
RECORD ROOM
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DENTAL FACILITY
RECORD ROOM
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A043 221

FOOD AND NUTRITION SERVICE

PROCESS
CONDITION-ACTION DIAGRAM
FLOWCHARTS

US ARMY TRIMIS AGENCY
WALTER REED ARMY MEDICAL CENTER
WASHINGTON, DC 20012

November 1976

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REPORT DOCUMENTATION PAGE

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1. REPORT NUMBER: TRIMIS-ARMY-TR-1-9	2. GOVT ACCESSION NO.
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE *(and Subtitle)*: FOOD AND NUTRITION SERVICE PROCESS CONDITION-ACTION DIAGRAM FLOWCHARTS	5. TYPE OF REPORT & PERIOD COVERED
	6. PERFORMING ORG. REPORT NUMBER: N/A
7. AUTHOR(s): MAJ J. Fran Sager; CPT Irene Begg; CPT Richard Bresnahan; SP5 Gordon Murray; and CPT John Brady	8. CONTRACT OR GRANT NUMBER(s): N/A
9. PERFORMING ORGANIZATION NAME AND ADDRESS: USA TRIMIS Agency, WRAMC, Washington, DC 20012	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS: USA TRIMIS Agency (SGTR-DO), WRAMC, Washington, DC 20012	12. REPORT DATE: November 1976
	13. NUMBER OF PAGES: 146
14. MONITORING AGENCY NAME & ADDRESS *(if different from Controlling Office)*: N/A	15. SECURITY CLASS. *(of this report)*: UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE: N/A

16. DISTRIBUTION STATEMENT *(of this Report)*

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18. SUPPLEMENTARY NOTES

To be used in conjunction with TRIMIS-ARMY-TR-1-1 Overview.

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Flowchart, Condition-Action Diagram, Health Care, Information System, Ambulatory Care, Hospital, Food Service, Dietetics, Nutrition Service

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

The purpose of the Food Service (FS) System condition-action flowcharts is to present in easily understandable graphic form the major processing involved in an advanced Food Service system. The FS system is intended to provide the Food Service portion of the health care support systems which are the mission of the Tri-Service Medical Information System (TRIMIS) project.

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Block #20:

There is a wide diversity in Food Service operations throughout the military medical departments. The intent of the system is to be relatively comprehensive. Therefore, the TRIMIS FS subsystem includes features that may not be implemented at all treatment facilities. However, a subset of the system should suffice for any given treatment facility.

The objective of the TRIMIS FS subsystem is to provide a food service management and technical information system responsive to the needs of both the dietitian and the physician: to the dietitian, by supplying accurate, timely data on which to base management decisions; and to the physician, by supplying complete patient dietary information as it is needed in the diagnosis of disease and treatment of the patient.

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ACKNOWLEDGEMENTS

The design and development of the complete system charted herein was a joint effort participated in by the Army, Navy, and Air Force with technical assistance from a systems Engineering and Integration Contractor (SE&I). The principal military personnel involved in this effort were: MAJ Jane F. Sager, CPT Irene Begg, CPT Robert A. Fisher, CPT John E. Brady, CPT Richard E. Bresnahan, SP5 Gordon D. Murray and Mr. Steve Karwoski, TRIMIS-Army Agency; CPT Ronald Harris, Air Force Data Systems Design Center. The SE&I was IBM Federal Systems Division.

PURPOSE:

The purpose of the Food Service (FS) System condition-action flowcharts is to present in easily understandable graphic form the major processing involved in an advanced Food Service system. The FS system is intended to provide the Food Service portion of the health care support systems which are the mission of the Tri-Service Medical Information System (TRIMIS) project.

BACKGROUND.

There is a wide deversity in Food Service operations throughout the military medical departments. The intent of the system is to be relatively comprehesive. Therefore, the TRIMIS FS subsystem includes features that may not be implemented at all treatment facilities. However, a subset of the system should suffice for any given treatment facility.

LIMITATIONS:

The reader must not at this time expect to find a hospital Food Service Division which operates exactly as described herein. This is because the FS System charted here included more capabilities than, and is a superset of, any known system at the time of this writing. The system presented here is in fact, a technology-independent description of the full TRIMIS FS System design. However, the internal details of routine processes such as production of reports are not presented here, as the condition-action diagram format is an inappropriate medium for that type description.

OBJECTIVES:

The objective of the TRIMIS FS subsystem is to provide a food service management and technical information system responsive to the needs of both the dietitian and the physician: to the dietitian, by supplying accurate, timely data on which to base management decisions; and to the physician, by supplying complete patient dietary information as it is needed in the diagnosis of disease and treatment of the patient.

OVERVIEW:

The Food Service Subsystem, is composed of twelve (12) major functions grouped into five (5) major categories: the CLINICAL SUPPORT functions (Clinical Support-Inpatient and Clinical Support-Outpatient), the RESOURCE MANAGEMENT FUNCTIONS (Local Data Base Maintenance, Financial Management, Personnel Management, and Quality Control Management), the FOOD PRODUCTION functions (Menu Item Preparation Scheduling, Inventory Control, and Menu Item Preparation), the FOOD SERVICE functions (Patient Tray Assembly and Dining Room Service), and CENTRAL DATA BASE MAINTENANCE.

The general interrelationships between the Food Service Subsystem functions, and the interfaces between these functions are shown in Figure 1.

Both Clinical Support-Inpatient and Clinical Support-Outpatient rely on the Ward/Clinic and Patient Administration Subsystems for patient identification, registration, medical record availability and completeness, and the diet order. The Clinical Support-Inpatient function needs these subsystems for patient location. The Clinical Support-Outpatient function relies on the Patient Administration Subsystem for eligibility determination, and on the Patient Appointment Subsystem for Nutrition Clinic appointments. These functions also rely on each other for dietary record data, for patients who transfer between outpatient and inpatient status.

The remainder of the Food Service Subsystem functions exist to support the two Clinical Support functions. The Central Data Base Maintenance function, which operates outside the environment of any individual hospital, provides recipes, nutritive values, and a Hospital Master Menu to the Local Data Base Maintenance function of each hospital.

The Local Data Base Maintenance function, as well as the other three Resource Management functions, support all other functions of the Subsystem, without exception. The Local Data Base Maintenance functions provide versions of the Central Data Base Maintenance function data bases, tailored to meet local requirements, to other functions as needed. The Financial Management function keeps financial records and provides budgetary guidance. The Personnel Management function monitors personnel schedules for all functions. The Quality Control Management function maintains procedures and other quality control mechanisms for all functions.

The Menu Item Preparation Scheduling function assures that the correct quantity of each menu item is scheduled for production in a timely fashion. Based on these schedules, the Inventory Control function is used to procure the raw ingredients for the menu items, and maintains a perpetual inventory of amounts on hand. These are withdrawn from inventory as needed for menu item preparation through the Menu Item Preparation function. The menu items are produced, and provided to the Inventory Control function for storage.

The Patient Tray Assembly and Dining Room Service functions withdraw the prepared menu items from inventory as they are needed for service. The Patient Tray Assembly function interfaces with the Clinical Support-Inpatient function, which provides the menu item selections for each individual patient eating on the nursing unit. Trays for each patient are assembled and turned over the Logistics Subsystem for delivery to the nursing unit. While meal service progresses in the Dining Room, headcount is taken of individuals entering. This headcount data, with other shortage/leftover information from both Service functions, is provided to the Local Data Base Maintenance and/or Financial Management functions for review and follow-up.

Expected Benefits include:

- o Improved utilization of personnel, equipment, and professional resources.
- o Increased capability to respond to the needs of the patient.
- o Greater Improved food quality.
- o Improved food quality.

CLINICAL SUPPORT-OUTPATIENT

These processes encompass the sequence of events that take place within the Nutrition Clinic in providing nutritional care to outpatients from the time the patient enters the clinic until the patient departs.

As the Nutrition Clinic is a referral clinic, most patients are appointed by PATIENT APPOINTMENT SCHEDULING (PAS); however, procedures for appointment of patients who have bypassed PAS and procedures for reappointment of those patients who have been appointed but for some reason require a new appointment are included.

Patients appointed for initial diet instructions/counselling must have a consult form from a care provider with the appropriate diet order. Procedures for obtaining a diet order when no consult form is available are included. The medical record is normally required for each patient visit. Procedures are included to handle those situation where the medical record is not available but diet instructions/counselling must be provided.

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Evaluation and validation of a diet order by the dietitian are included in this function. The information required for performing the diet order evaluation is collected through the completion of the dietary record which includes a medical record review or update process and a patient dietary history recording or update process.

Procedures for the documentation of each visit in appropriate patient records and for the initiation of any referral and/or follow-up actions required are also included in this function.

CLINICAL SUPPORT - INPATIENT

These processes encompass the sequences of events that take place from the time of patient admission to patient discharge as regards to nutritional care.

Initial diet order receipt (or diet order change notification) and evaluation and validation of a diet order are included in this function. As diet order validation may be time-critical in the inpatient setting, procedures are included to allow for provisional one-meal diet orders and unvalidated one-meal diet orders in the event validation cannot be completed within a meal service time frame.

In addition to a medical record review and patient dietary history recording, patient food tolerances recording (or update where appropriate) is included as a part of the dietary record to ensure that each patient receives appropriate food items at meals.

All menu selection actions required to provide patient meals either by patient selection or selection for the patient by Clinical Dietetics Branch personnel are accomplished in this function. Menus are processed in a timely manner to allow for Patient Tray Asssembly function preparation of all items needed for tray service (to include those items identified as additional menu item requirements). Cart Loading Guides are also prepared for use by both the Patient Tray Assembly function and Logistics Subsystem in food cart loading, delivery, and service.

Tray service sequences as accomplished by Clinical Dietetics Branch personnel on the ward are also included in this function. Procedures for recording patient specific information relating to food intakes are provided.

Discharge notification and the actions required to cancel prepared meals and advance menu selections are included in this function, as is the documentation of the nutritional care during the patient stay (disposition of the dietary record upon patient discharge).

CENTRAL DATA BASE MAINTENANCE

This function operates outside the specific control of any one Army Medical Department (AMEDD) medical facility, and provides recipe, nutritive value, and Hospital Master Menu data bases (and updates to those data bases) initially to WRAMC and ultimately (as an incremental enhancement)to other implemented AMEDD medical facilities. The interface between this function and the medical facility is the Local Data Base Maintenance (LDBM) function, which is responsible for reviewing the data bases and providing local augmentation to them.

The recipe data base is composed of a standard preparation instruciton set, a standard ingredient list, and standard list of can sizes, abbreviations, etc., as well as the recipes themselves, which utilize those standard lists. The nutritive value data base is composed of raw data for each recipe ingredient and nutritional value of recipes and menus. The Hospital Master Menu data base includes regular and modified diet menus for the menu cycle, specialty meals and holiday meals/menu items.

As change requests come into this function, they are reviewed for completeness and validity. If incomplete/invalid, they are returned to the requesting facility for further action. Changes may reference the recipe, nutritive value, or Hospital Master Menu data bases. A change to one data base usually affects one or more of the other data bases for example, a change to a recipe may change its nutritive value, and hence the nutritive value of each menu on which the reciep has been used. Therefore, all changes must be fully cross-checked between data bases, as well as within the data base being changed, to assure that a change beneficial to one data bases does not impair others. When a group of data base update data has been processed, it is forwarded to each medical facility, with a description of the updating which has taken place.

LOCAL DATA BASE MAINTENANCE

This function is the interface point between the Central Data Base Maintenance function and the functions of the subsystem which run under the control of the medical facility. Within this funciton lies the responsibility of initially establishing the data files provided by the Central Data Base Maintenance function and initiating the corresponding/supplementary local data for those files. As system operation is initiated and continues, this function also includes processing of update data from the Central Data Base Maintenance function, as well as update data from within the Food Service, for those data files.

To initiate the local data bases provided from the Central Data Base Maintenance function, determination is made of the menu items from the Hospital Master Menu to be used locally, creating a Local Master Menu. Based on that menu, the recipes to be used are selected, and the ingredients to be used in them selected, where optional ingredients are available. The recipes and menu items are nutritionally analyzed, using the nutritive value data provided. If nutritionally adequate, inventory records are initiated for each raw ingredient to be procured, as well as for each prepared menu item. Menus are printed for patient distribution, and provided to the Clinical Support-Inpatient function; and dining room menus are provided to the Dining Room Service function.

As system operation progresses, both specific "hard" data changes and operational feedback, or "soft" data, are processed. The "soft" data are analyzed, and specific changes to be made to the data bases, if any, are identified. "Hard" data (specific changes) can arrive from the Central Data Base Maintenance function, or from within the Food Service. These changes are processed on a schedule compatible with the daily operation of the Food Service (i.e., they do not have to be processed immediately upon arrival). Like the Central Data Base Maintenance function, all changes to an individual data [illegible]e must be cross-checked against other data bases to assure comp[illegible]ity, including data bases maintained by other Food Service [illegible]em functions (e.g., Menu Item Preparation Scheduling). Some "hard" d[illegible] changes are the update responsibility of the Central Data Base Maintenance function, and are provided to that function for processing.

FINANCIAL MANAGEMENT

The processes included in this function are triggered by specific events--scheduled events, such as updating of census forecast data; and arrival of documents for costing and budget updating. The major processes include recipe costing, determining food and expendable supply purchase and issue cost estimates, maintaining records of rations served, and preparing and updating long and short range census forecasts.

The census forecasts are developed from the daily and cumulative records of meals served in the dining room (headcount data) and the diet census for inpatients, from the Clinical Support Inpatient function. The long range forecast is developed to support the raw ingredient procurement cycles, as provided by the Inventory Control function. The short range census forecast is a more accurate forecast, developed 2-3 days prior to menu item service from more current census data. These census forecasts are used by appropriate functions in developing daily requirements.

This function processes both procurement and issue requisitions. All procurement requisitions are released through this function following fund availability certification. This includes a cost projection for the requisition, which is posted to "obligated funds". Requisitions showing actual receipts of raw ingredients (and prepared menu items) are also costed. Actual costs are posted, and the obligated fund information is updated accordingly. A cumulative receipt record is maintained for each raw ingredient/prepared menu item/expendale supply to assist in verifying the Inventory Control function physical inventory. Issues from the inventory are costed and posted to a cumulative withdrawal record, for the same purpose.

Headcout data from the Dining Room Service function and beds-occupied data from the Patient Administration Subsystem provides the basis for the computation of rations served, which is the figure used to authorize food expenditure within the Food Service.

Recipes are costed periodically to provide an inventory line item price for prepared menu items, which must be maintained to support the sale of such menu items to other medical facilities in the area.

PERSONNEL MANAGEMENT

The processes of this function include those for maintaining employee duty schedules and checking employees in and out. The hours worked data for each employee will be available for civilian pay purposes. At the time of employee check-in, the Quality Control Management function will provide each employee with information regarding internal operating procedures which have changed, that are pertinent to his duties. Each employee will receive a copy of his time and attendance information for his own personal records.

QUALITY CONTROL MANAGEMENT

This function will include support for the food technology laboratory, and be the control point for Food Service internal operating procedures. Based on inventory information from the Inventory Control function, the production schedule from the Menu Item Preparation Scheduling function, and the menu being served from the Local Data Base Maintenance function, the requirements for food samples to be taken and tested in the food technology laboratory are generated, governed by appropriate food safety guidelines. Records of the results of those tests will be maintained. A file of internal operating procedures will be maintained. These will be categorized to identify the group(s) of employees to which each applies, for interface with the Personnel Management function.

MENU ITEM PREPARATION SCHEDULING

Based on the census forecasts generated through Financial Management function operation, and the recipes and menus from the Local Data Base Maintenance function, the number of servings needed of each menu item for each day of the menu cycle is computed. The schedule to be used in preparing these menu items is developed, to meet ingredient procurement schedules provided through the Inventory Control function.

INVENTORY CONTROL

All processes included in this function are triggered by specific events -- scheduled events (such as a predetermined procurement schedule) and document arrival for processing from other functions, primarily the Menu Item Preparation, Patient Tray Assembly, and Dining Room Service functions. The other major internal interface is with the Financial Management function, which serves as the Inventory Control function monitor. The major processes of this function include food and expendable supply procurement action, and the maintenance of a perpetual inventory for raw ingredients, prepared menu items, and expendable supplies.

Procurement of expendable supplies is accomplished from stock levels established for each such supply, on a schedule provided by the Logistics Subsystem. Requisitions are prepared and provided to the Financial Management function for costing and released to Logistics. Some expendable supply items are received from Logistics on an automatic resupply basis. The quantities to be automatically resupplied are reviewed periodically, and adjusted with Logistics when required. Receipt of automatic resupply items is also noted, and information is provided to the Financial Management function for costing.

Procurement of raw ingredients is normally done on a pre-established schedule, as supplies by the Commissary. However, emergency requisitions are also handled when required. The normal procurement cycle includes raw ingredients ordered 1-2 days in advance of need, raw ingredients ordered 60-75 days in advance of need, and raw ingredients ordered on other cycles in between those two. The quantities of each raw ingredient needed, for the appropriate procurement cycle, are developed using one of three methods: ingredient quantities are computed based on recipes and the production schedule, ingredient quantities are computed based on a normal procurement period usage, or ingredient quantities are computed based on a combination of recipe usage and normal procurement period usage. In all cases any excesses on hand or shortages in the inventory are incorporated in the quantity ordered. The inventory data is updated to reflect the amount due in, as well as its anticipated withdrawal from the inventory on a daily basis.

Anticipated withdrawals are maintained to provide the capability of projecting storage space availabilty.

A perpetual inventory is maintained. Actual raw ingredient/prepared menu item/expendable supply receipts are posted to the inventory, as are withdrawals from the inventory. Periodically, on a scheduled basis, a physical inventory is taken, to assure the accuracy of the inventory data. Results of that inventory are turned over to the Financial Management function for identification of significant errors and determination of cause.

MENU ITEM PREPARATION

The processes included in this function include the cycle of events which must take place to accomplish any single day of menu item production in the faciltiy. Operation of this function assumes the availability of 1) the Menu Item Production Schedule, from the Menu Item Preparation Scheduling function, 2) current inventory data, from the Inventory Control function, and 3) recipes, from the Local Data Base Maintenance function. The major functional outputs from this function are prepared menu items, which are placed in inventory chilled or frozen, and are hence available for future use by various service areas.

Menu item preparation for any given production day encompasses production schedules for a variable number of days in advance (the number of days is stable for an individual hospital but varies among hospitals). Some menu items on the advance schedules require that ingredients be issued prior to the production day for thawing, or for pre-production of some ingredients. Advance schedules are reviewed, and recipes requiring advance processing are identified and extended to the quantities required. These extended advance recipes are reviewed daily to identify any production quantity changes. If production quantity changes have occurred, appropriate action for issue of additional ingredients or incorporation of excess ingredients is taken. All recipes for the production day being processed are extended.

Using those recipes, the total quantity of each ingredient needed is computed, and totals are converted to issue quantities. The requisition is then sent to the Ingredient Room for adjustment reflecting quantities on hand. Ingredient labels and Ingredient Room worksheets are prepared. If the recipe is to leave the Ingredient Room, it is added to a Delivery Schedule which specifies when and where it is to be delivered. Other production worksheets are prepared as required, with packaging worksheets for bulk and individual portioning requirements. When the requisition is returned from the Ingredient Room, reflecting amounts on hand there, inventory data is reviewed to assure the availability of needed raw ingredient. Assuming availability, the requisition is released for issue action to the Inventory Control function, and the needed ingredients are delivered to the Ingredient Room.

On the production day, processing and production is carried out according to the documents previously produced. Prepared menu items generated are turned over to the Inventory Control function, where they then become accountable inventory items available for use.

PATIENT TRAY ASSEMBLY

The processes of this function include the cycle of events which must take place to accomplish the preparation of trays for individual patients, for any given day. Operation of this function assumes the availability of 1) menu data, from the Local Data Base Maintenance and Menu Item Preparation/Scheduling function. 2) inventory data, from the Inventory Control function, and 3) from the Clinical Support-Inpatient function, specific menu requirements for each individual patient and notification of items needed that are not on the official menu for that day. The processes described apply equally to trays served at standard meal periods and to trays served, as required, for in between meaL nourishments.

Processing to support any given service day is initiated 48 hours in advance of that day, with the issue of items requiring 48 hours to thaw from the prepared menu item inventory. Census data changes are evaluated, and quantities needed recomputed if required. The requisitions for those items are then prepared and released for issue, with labels to identify them in temporary storage. The following day, items requiring 24 hours to thaw, and items to be drawn from chilled storage are identified and requisitioned, following essentially the same procedures. Just prior to each meal, individual patient menu selections are received from the Clinical Support-Inpatient function, and trays are assembled to those specifications. Menu items not on the official menu are also identified by that function, and supplied to the Assembly function for acquisition. Trays are loaded into carts, and the carts are turned over to the Logistics Subsystem for delivery to the nursing units.

DINING ROOM SERVICE

The processes in this function include the cycle of events which must take place to accomplish the service of menu items in the dining room, for any given day, including the procedures for taking headcount in the dining room. Operation of this function assumes the availability of 1) menu data, from the Local Data Base Maintenance and Menu Item Preparation Scheduling functions and 2) inventory data, from the Inventory Control function.

Like the Patient Tray Assembly function, processing for any given service day is initiated 48 hours prior to service, and follows the same procedures for requisitioning and issue. Instructions for the reheating of each menu item requiring it are provided with the item. While meal service is going on, headcount data and cash collection procedures are also in process. An individual -- patient or staff -- must be authorized to eat in the dining facility. The headcount data collected is forwarded to the Financial Management function at the end of each meal for further processing.

SUBSYSTEM INTERFACES:

The Food Service Subsystem (FSS) depends on other TRIMIS subsystems for the following data and functional support:

- o Patient registration and identification/demographic data (PAD),
- o Patient medical status/history data (Wards and Clinics),
- o Patient administrative status (PAD),
- o Beds occupied census, Army and Air Force only (PAD),
- o Patient drug orders with possible food interactions (Pharmacy),
- o Ordering and inventory maintenance of expendable supplies (Log)

AMENDABILITY TO ADP SUPPORT:

The eventual goal is that FS be an automated system with significant on-line interactive compuer support. However, in these flowcharts, the processing is presented only in terms of procedures. Because of this technology-independent approach, the system and the charts are not in any way tied to the use of a computer or any other technology thus enhancing their usefulness.

CONDITION-ACTION DIAGRAM INTERPRETATION GUIDE

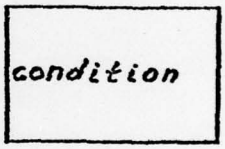
ACTION

When an action circle is encountered, the specified action, procedure, function, or process is to be performed as noted. An action is performed and never has a truth (true or false) value.



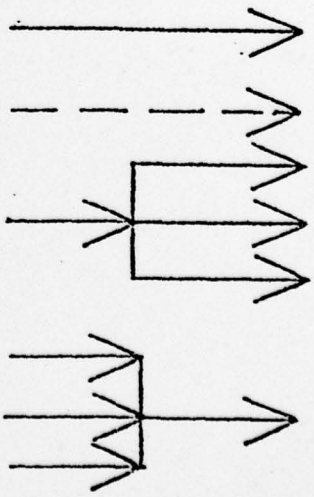
CONDITION

When a condition box is encountered, the specified condition is to be evaluated. If it holds true or succeeds, the following blocks on the diagram are to be executed. If the condition does not hold, then flow along this path of the diagram stops. The flow may, as appropriate, either be permanently blocked or may merely wait at the box pending the successful evaluation of the condition at some later time. A condition always has a truth (true or false) value.



FLOWLINES

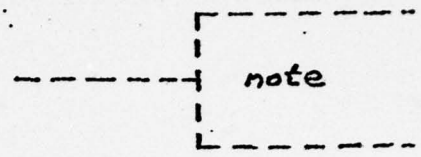
Flow proceeds through the diagram along the flowlines. When a flowline splits into multiple lines, all the lines must be followed (perhaps at once). If only one is intended, condition boxes will be used to select the proper line. When flowlines join or reconsolidate into a single line, that line is to be followed regardless of the number of joining lines that were active. Thus there is no waiting at a junction. Control, execution, or interpretation of the diagram is shown by solid flowlines. Data and information, is usually assumed to accompany control, but where necessary for clarity, it is shown, regardless of media, by dashed lines.



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NOTE

Clarifying notes, comments, remarks, and other annotation, including references to additional documentation, are enclosed in dashed note boxes and are connected to the annotated structure by dashed lines.



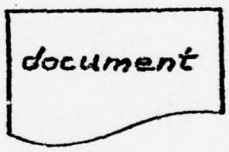
STORAGE

A triangular storage block indicates storage of information or data regardless of the medium of storage. Thus, only dashed data flow lines, not solid control lines, will connect to storage blocks.



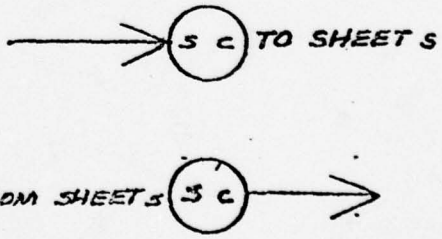
DOCUMENT

A document symbol represents information or data, regardless of media (it may or may not physically reside on a document). It is used only for clarity, as information such as that contained in the "document" is assumed to always be present along with the control flow. Like the storage symbol, only dashed data lines may connect to a document symbol.



CONNECTOR

A connector circle specifies that the flow continues on another page. An out-connector contains a number, which is the sheet number at which the flow is continued, and a letter, which specifies which in-connector on that sheet is being referenced. The in-connector contains the matching number-letter code. Adjacent to the connectors is a notation as to the sheet and process to or from which the connectors refer.



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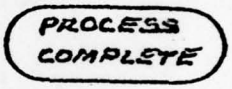
PROCESS

A striped process circle indicates a process to be performed. It is analagous to a high-level or meta-action. The process referenced will be diagrammed in its own set of condition-action flowcharts which are included in the same packet of flowcharts for reference. After the process is performed, flow resumes.



TERMINATOR

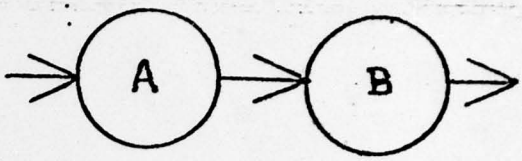
The oblong terminator symbol indicates that the current process or sub-process is complete. Normally, upon completion of a process, control returns to the process which invoked it, and resumes where it left off in that process.



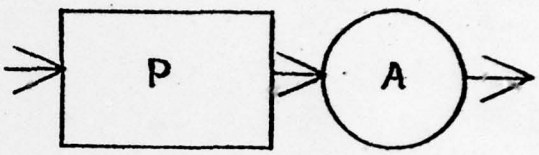
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CONDITION-ACTION EXAMPLES

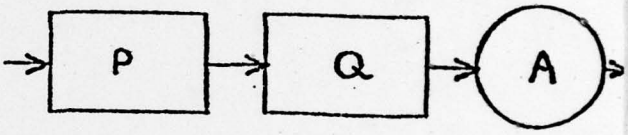
Perform Action A first, then in sequence, perform B.



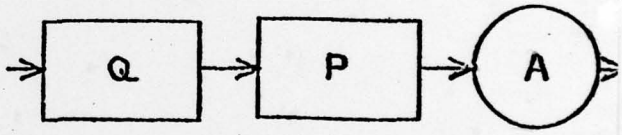
If condition P holds true, then perform Action A. If P does not hold, do not perform A.



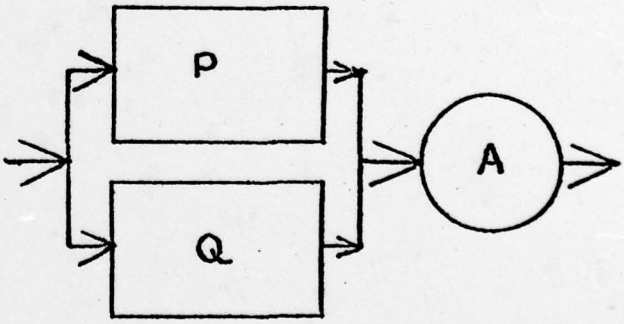
If both condition P and condition Q hold true, then perform A. If either one does not hold, then do not perform A.



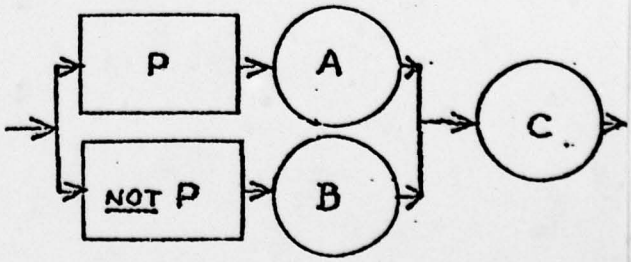
Same function and same net results as above, but evaluated in a different sequence.



If either condition P holds true, or if condition Q holds true (or both), then perform A. If neither holds true, then do not perform A.

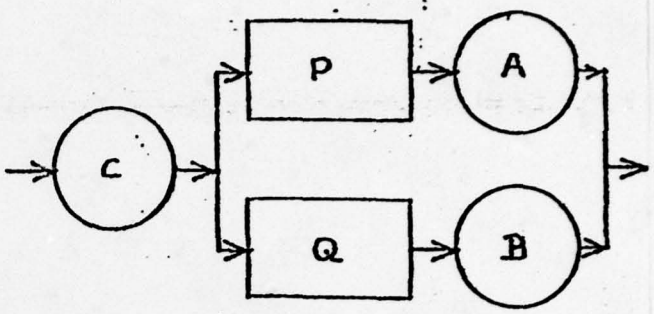


If condition P holds true, then perform Action A but not B. If P does not hold, then perform B but not A. In any case, when done, perform C.

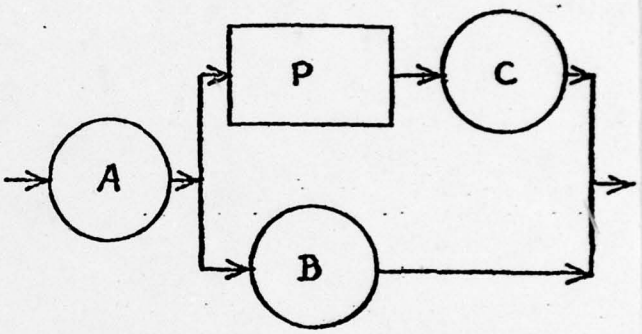


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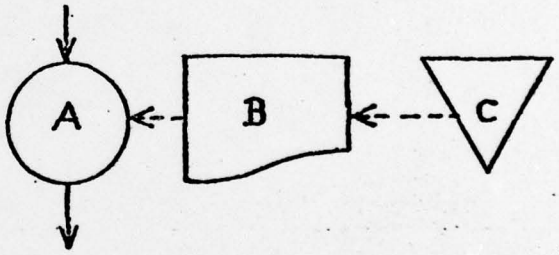
First perform Action C. Then: If condition P holds true, then perform Action A. If condition Q holds true, then perform action B. Note that both P and Q may hold, in which case both A and B will be performed.



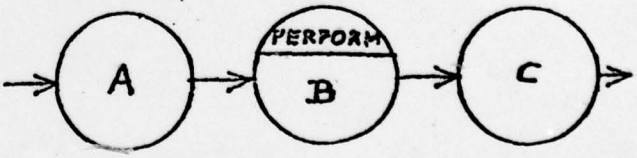
First perform Action A, then (in all cases) perform Action B. Additionally, if condition P holds true, then perform Action C (perhaps at the same time as Action B).



Perform Action A utilizing information contained on the document B which was retrieved from the file C.

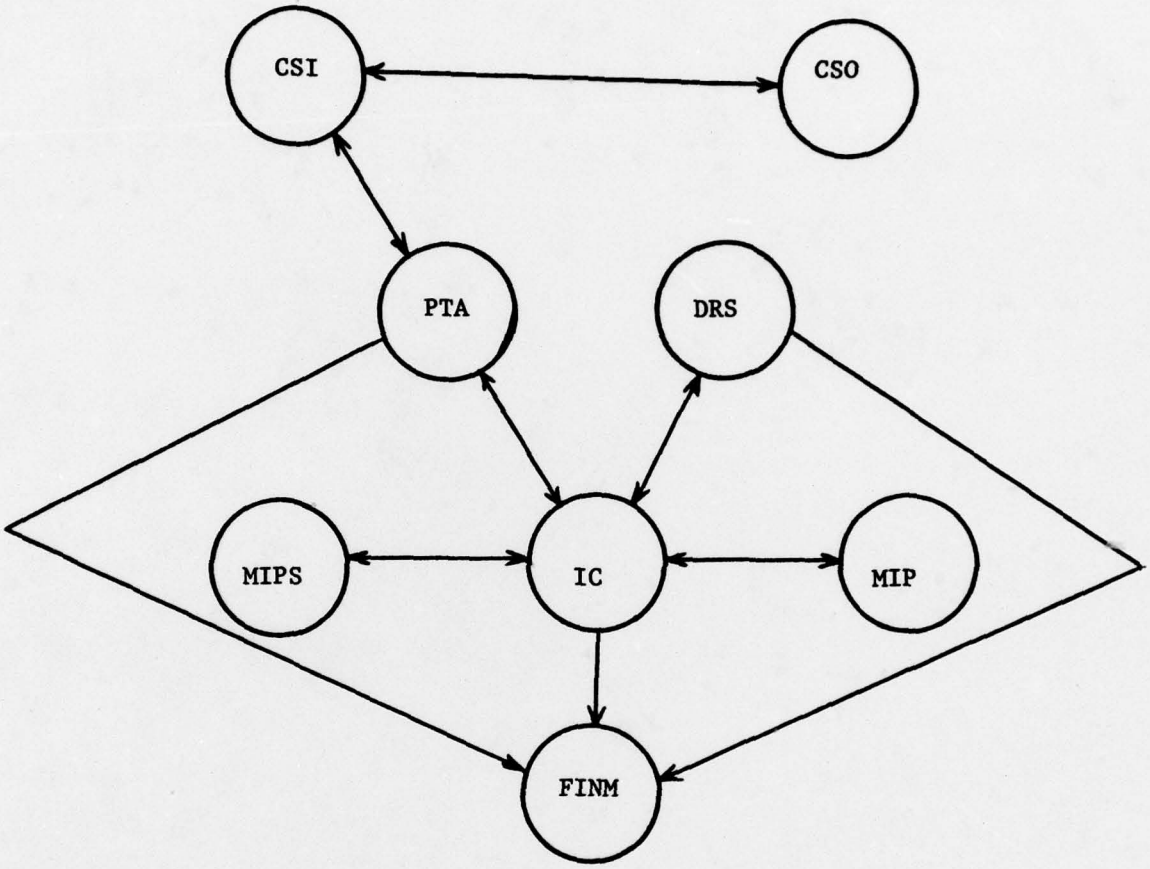


First perform Action A. Then perform process B, which is itself flowcharted elsewhere in this set of charts. After B is completed, return to here and perform Action C.



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OVERVIEW CHART:



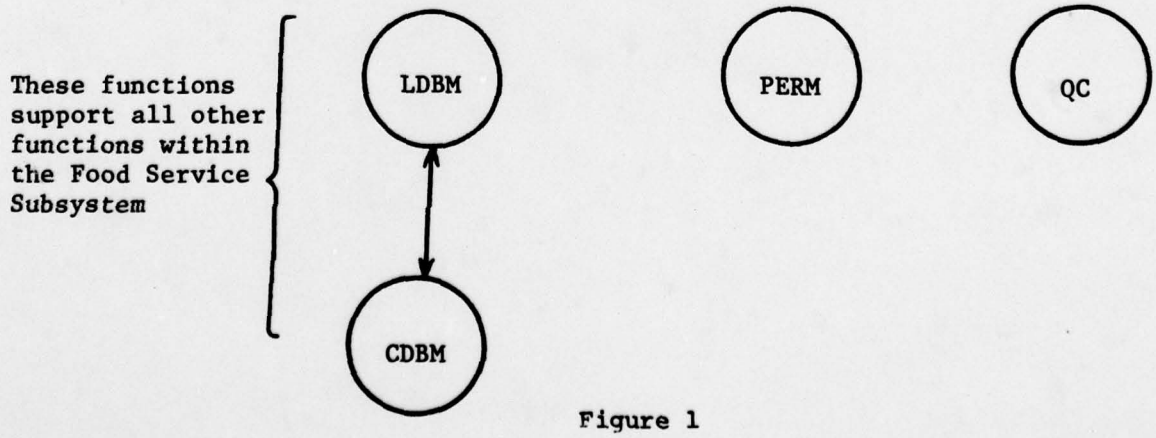


Figure 1